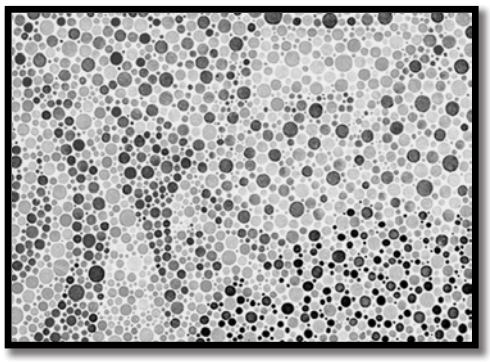
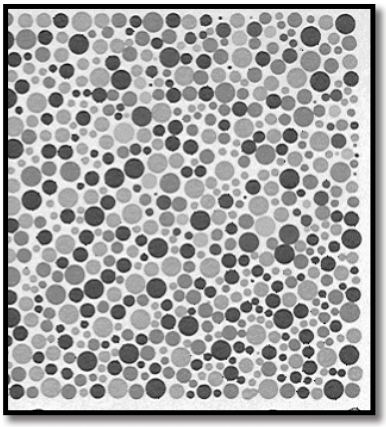
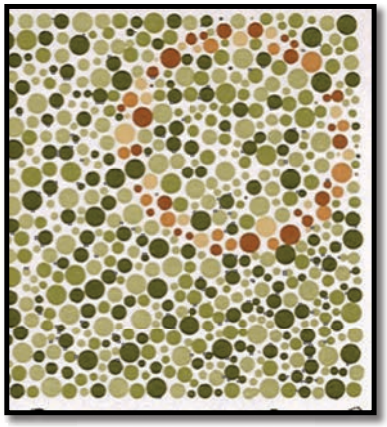
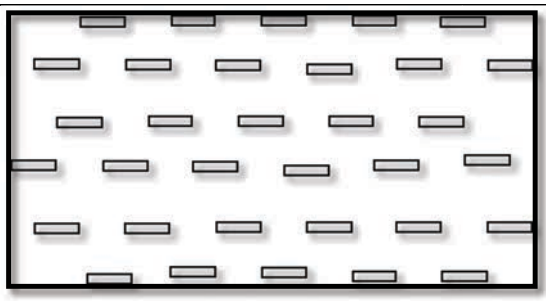
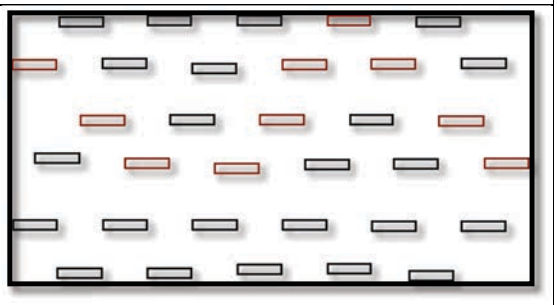
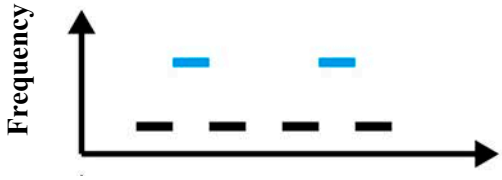
Supplementary Materials for
Fischer, Soden, Thoret, Montrey & McAdams
Instrument timbre enhances perceptual segregation in orchestral music

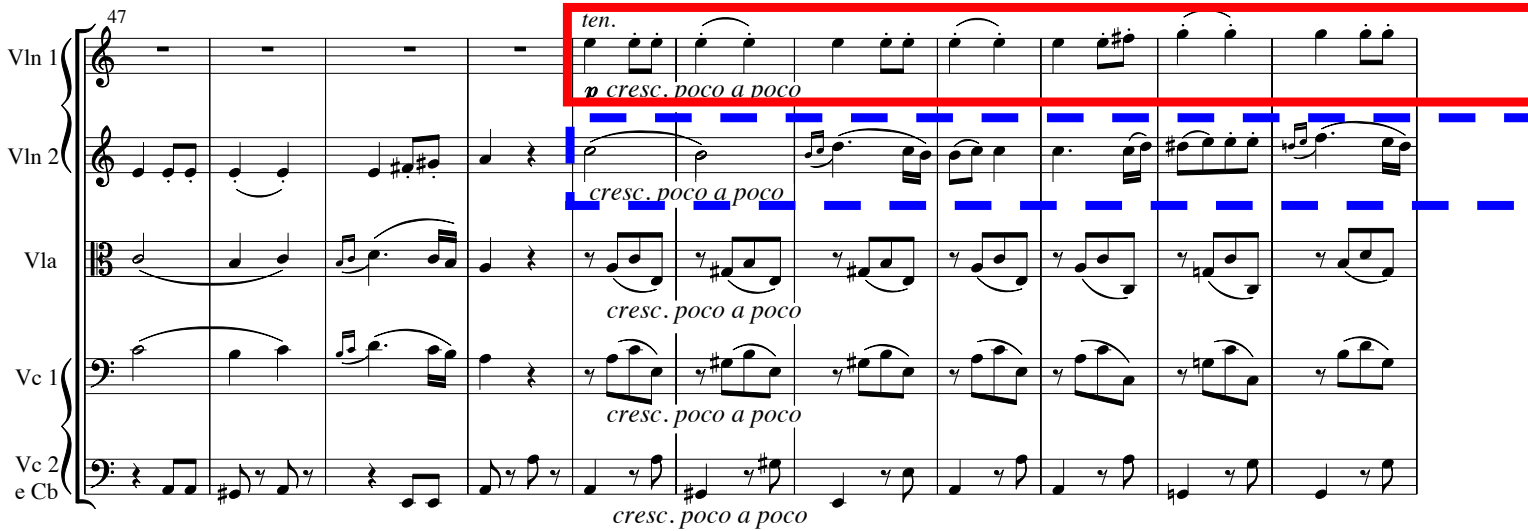
Figure S1. Visual analogies providing examples of segregation and the degree of segregation.

Original scores of 36 two-stream and 12 single-stream stimuli
For two-stream stimuli, stream 1 is in a solid red box and Stream 2 is in a dashed blue box. For single-stream stimuli, the blended stream is in a solid red box.

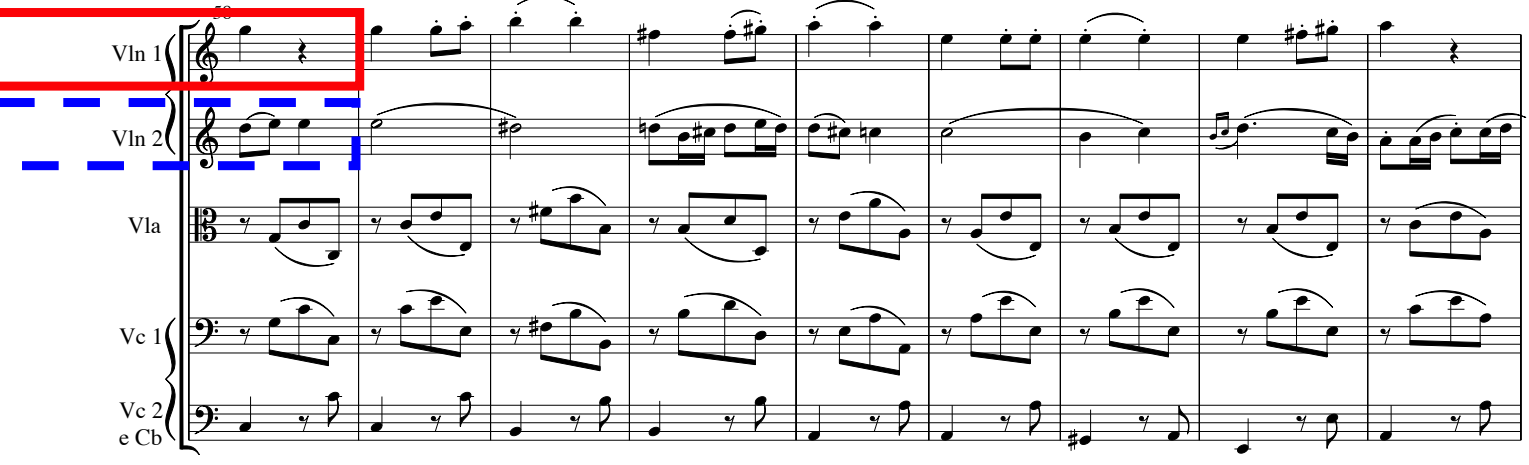
Figure S1. Visual analogies providing examples of segregation and the degrees of segregation.

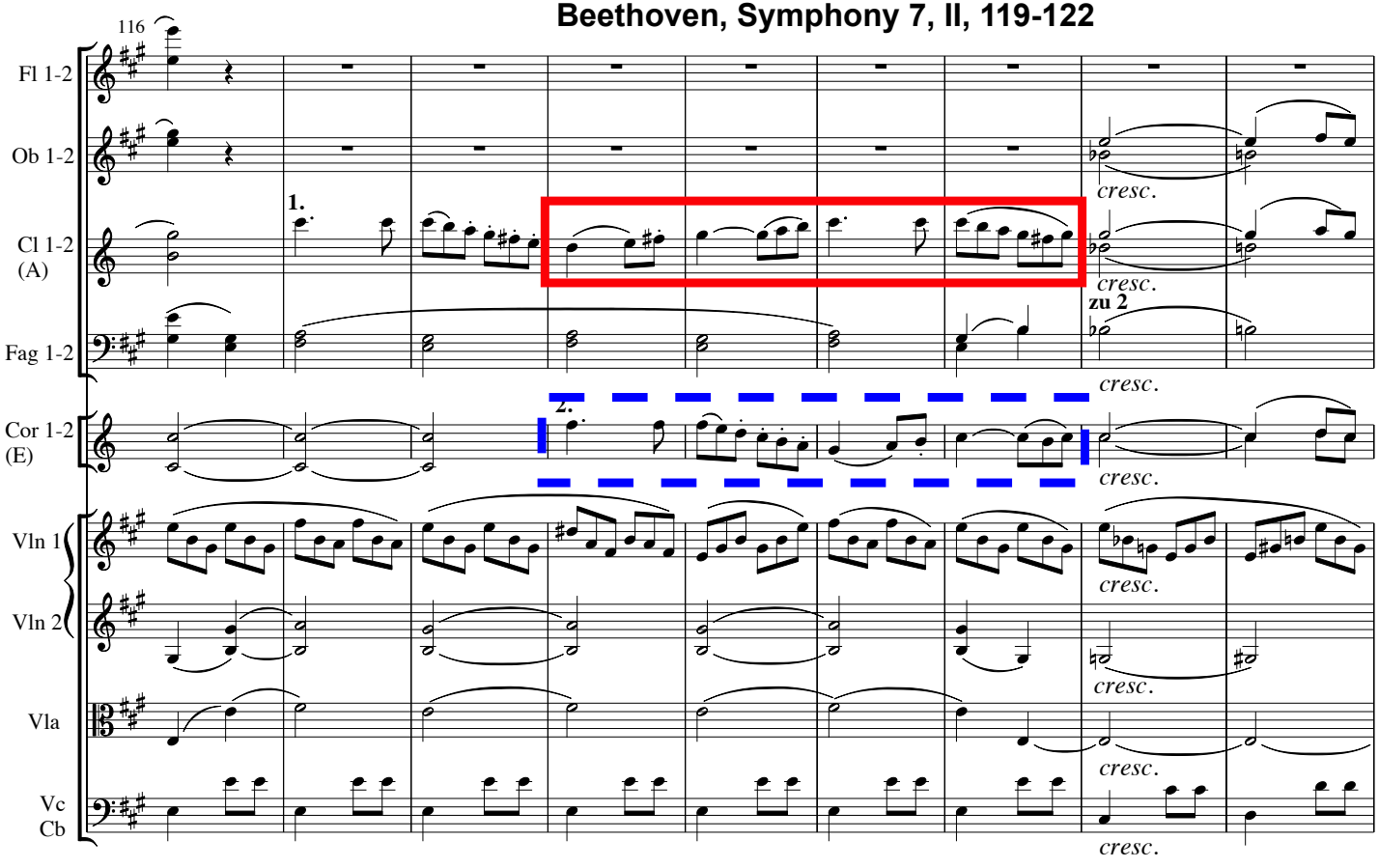
Example	Before	After
1		
2		
3		
4		

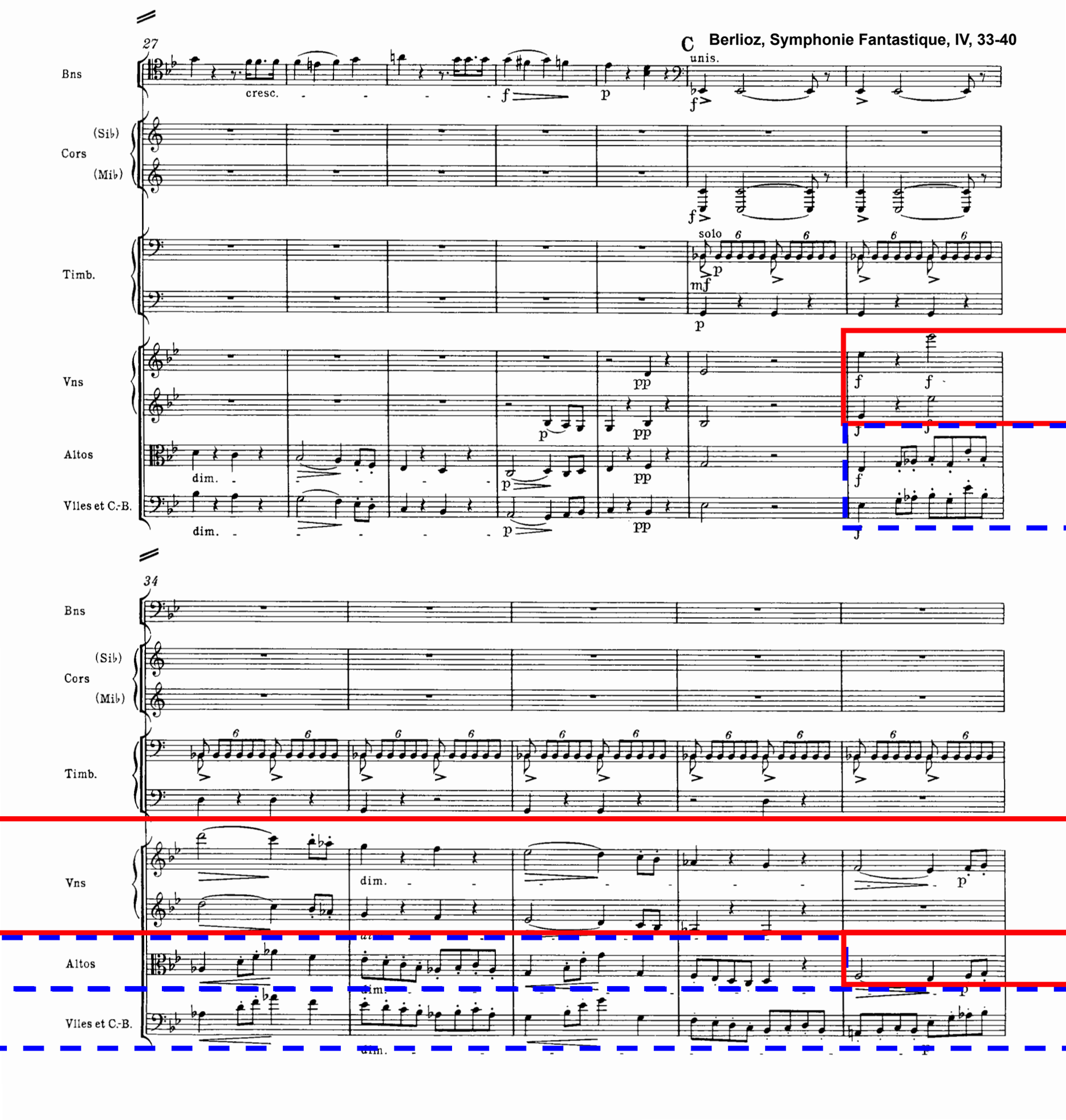
Beethoven, Symphony 7, II, 51-58

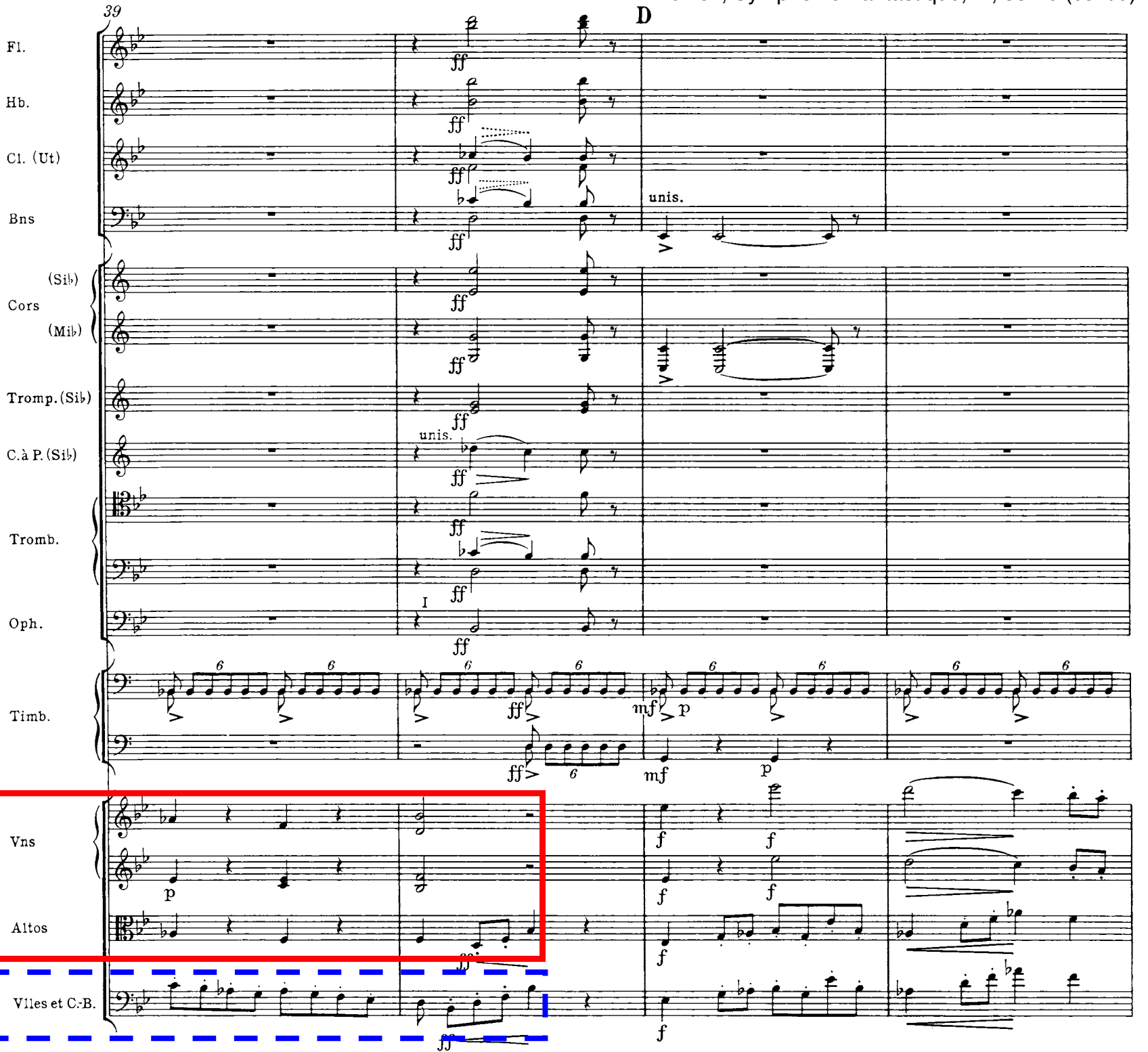


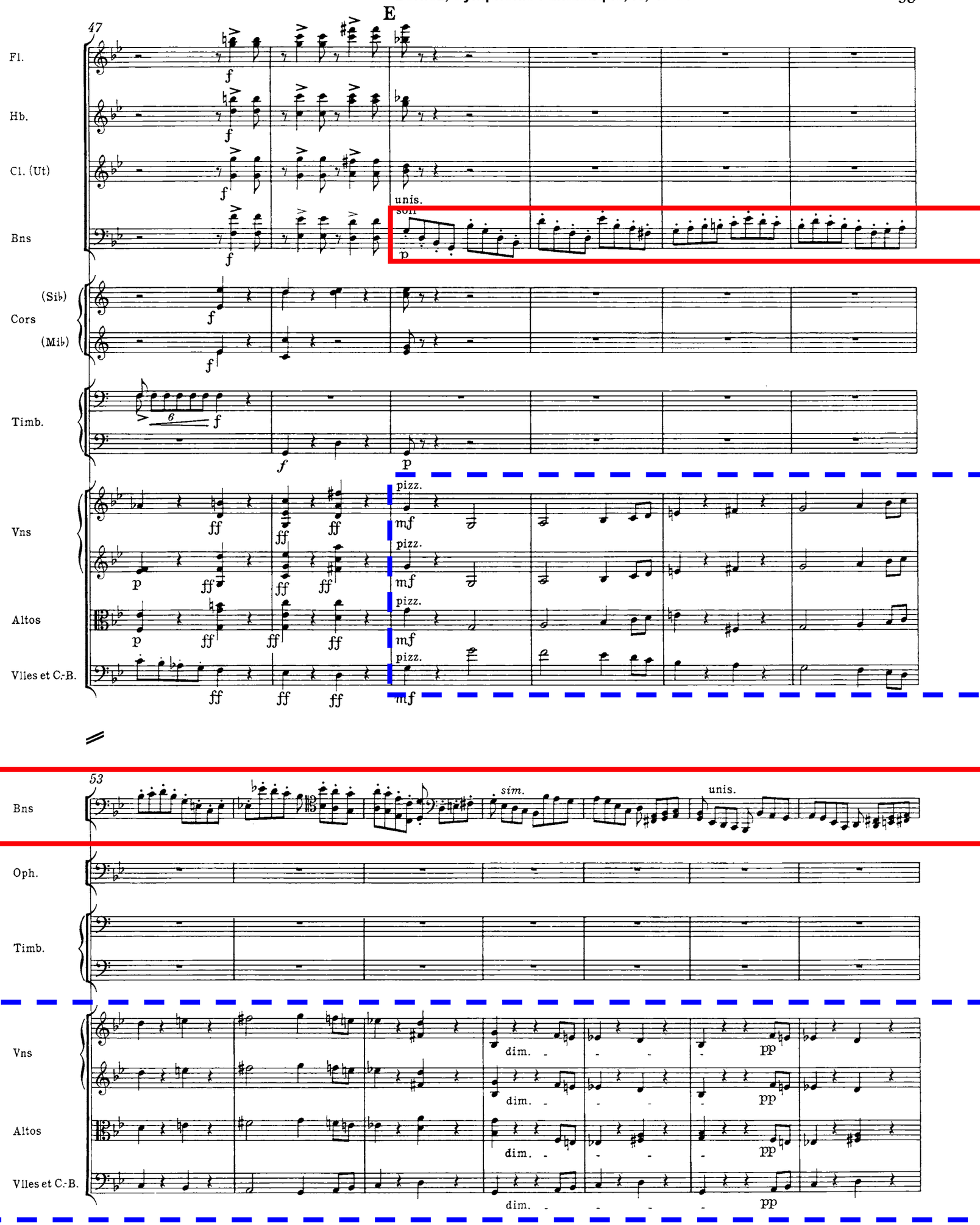
Beethoven, Symphony 7, II, 51-58 (cont'd)



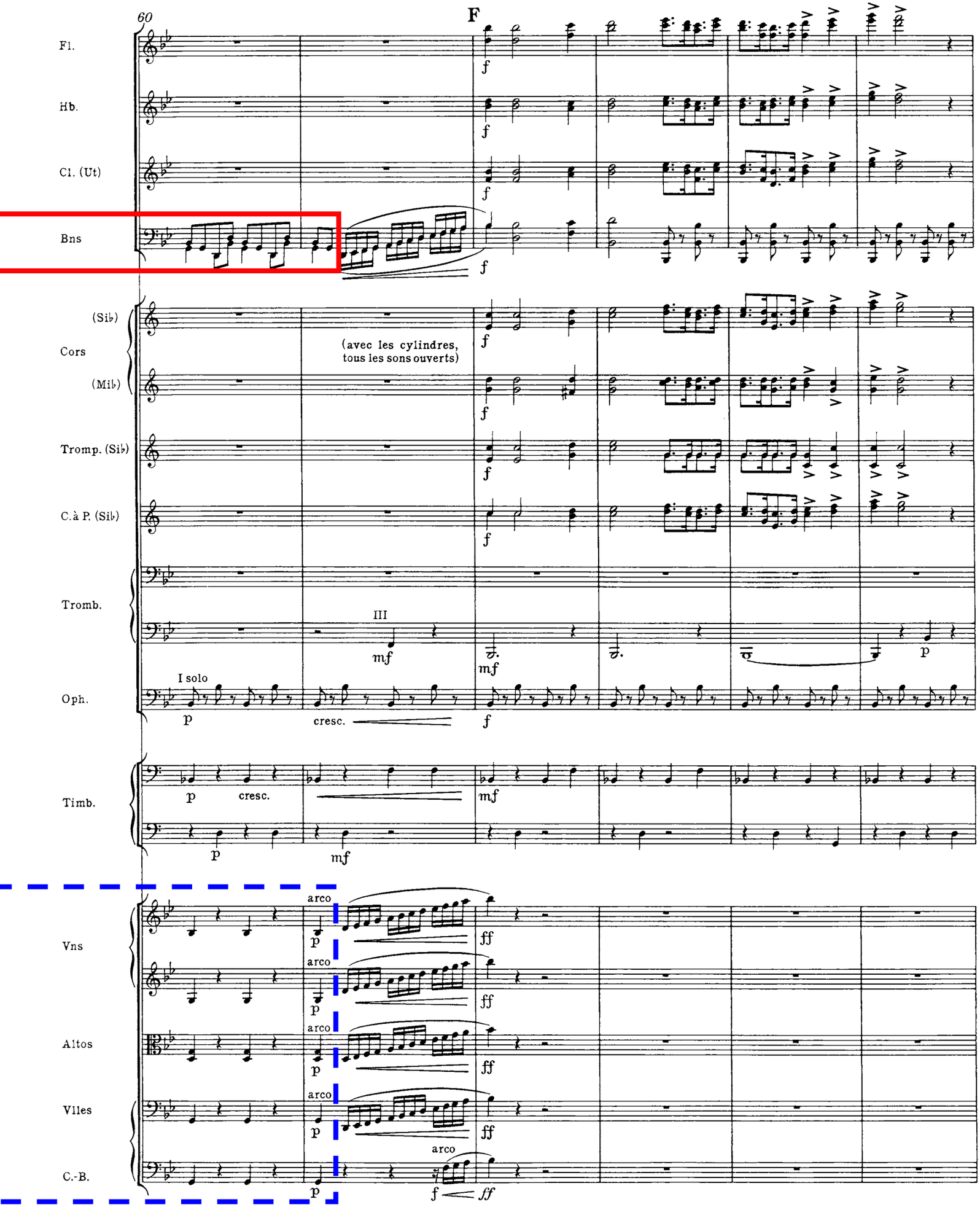

Beethoven, Symphony 7, II, 119-122
116
Fl 1-2
Ob 1-2
Cl 1-2
(A)
Fag 1-2
Cor 1-2
(E)
Vln 1
Vln 2
Vla
Vc
Cb
1.
2.
cresc.
zu 2


C
Berlioz, Symphonie Fantastique, IV, 33-40
27
Bns
cresc.
f
p
unis.
f
(Sib)
Cors
(Mib)
f
Timb.
solo
p
mf
p
Vns
pp
p
pp
f
f
f
Altos
dim.
p
pp
f
Vlles et C.-B.
dim.
p
pp
f
34
Bns
(Sib)
Cors
(Mib)
Timb.
Vns
dim.
p
Altos
dim.
Vlles et C.-B.
dim.
p

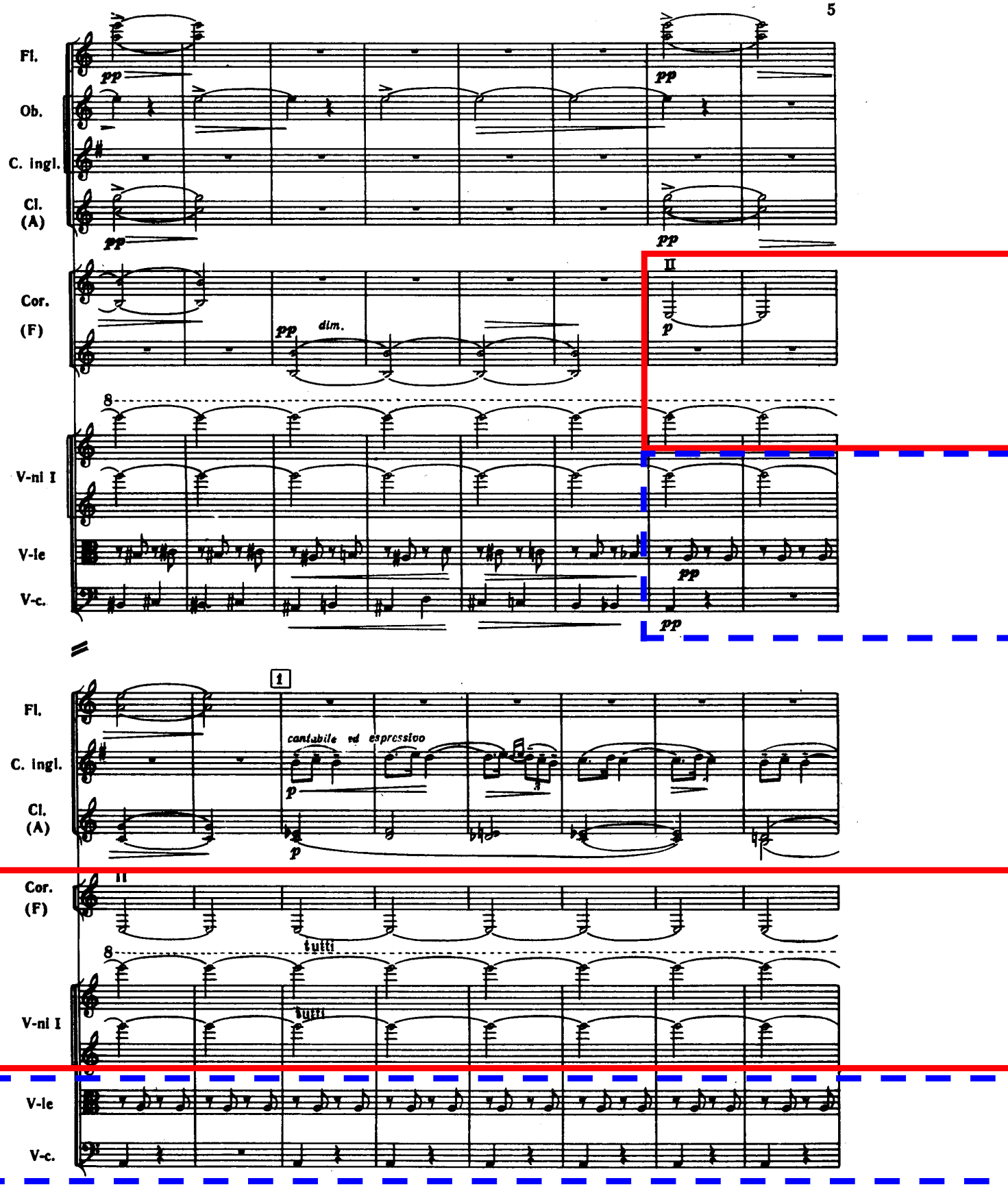

39
D
Fl.
Hb.
Cl. (Ut)
Bns
unis.
(Sib)
Cors
(Mib)
Tromp. (Sib)
C. à P. (Sib)
unis.
Tromb.
Oph.
I
Timb.
Vns
Altos
Vlles et C.-B.

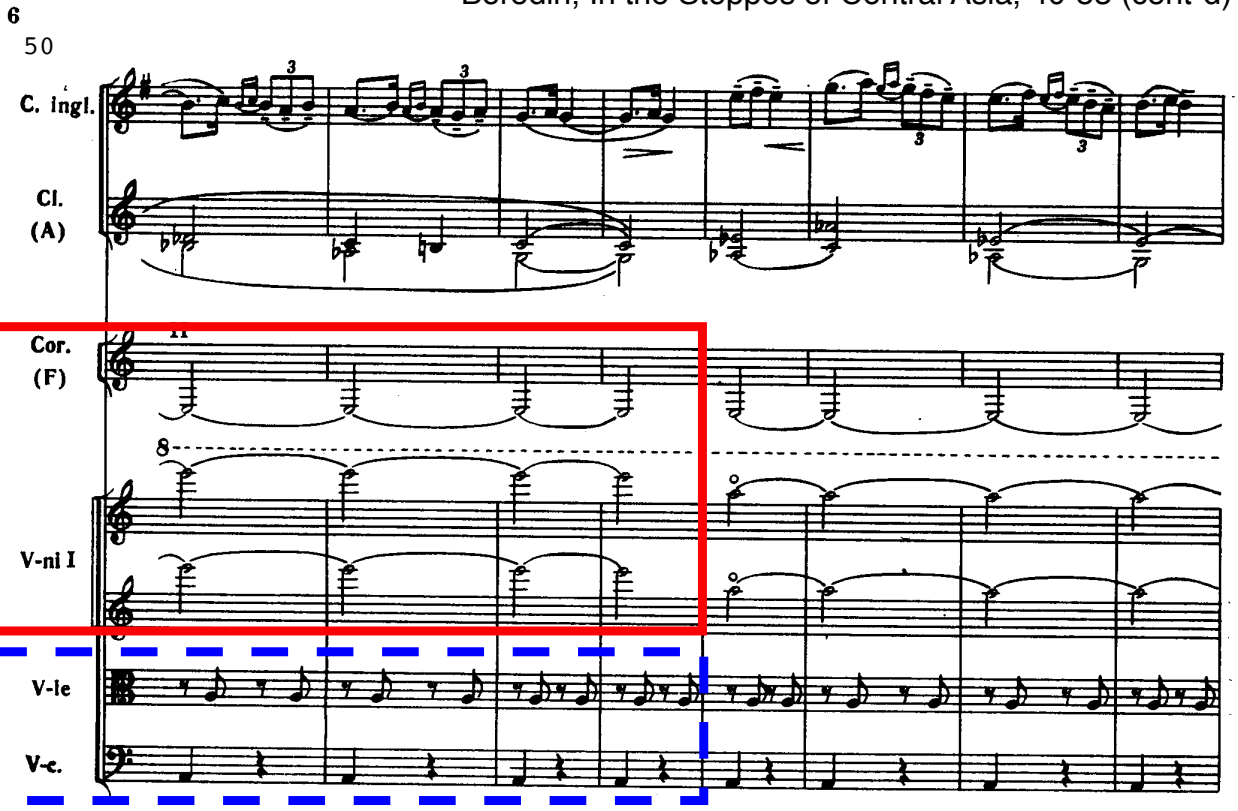

E
47
Fl.
Hb.
Cl. (Ut)
Bns
unis.
son
(Sib)
Cors
(Mib)
Timb.
Vns
Altos
Vlles et C.-B.
pizz.
53
sim.
unis.
Oph.
dim.
pp

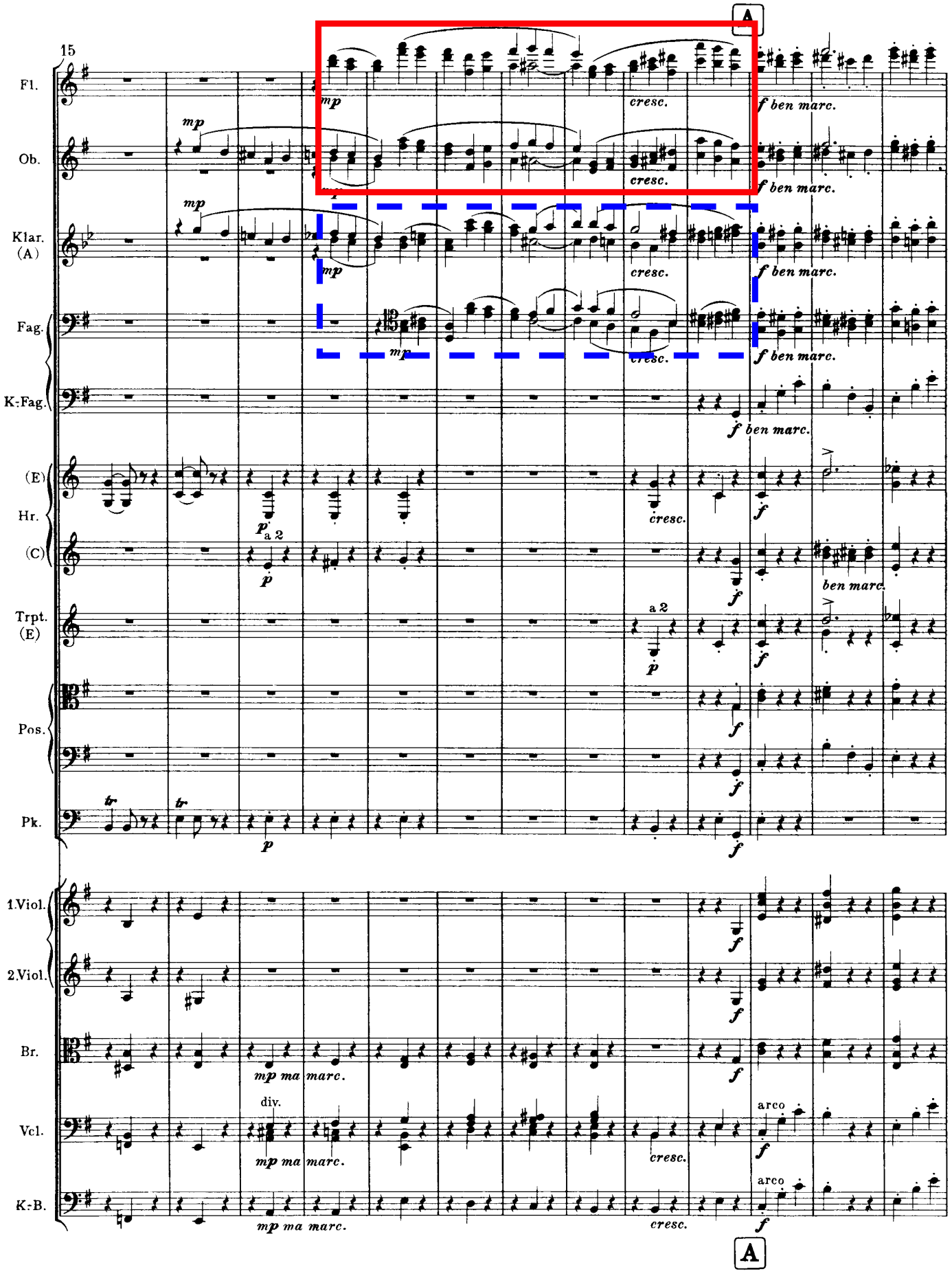
Berlioz, Symphonie Fantastique, IV, 49-61 (cont'd)

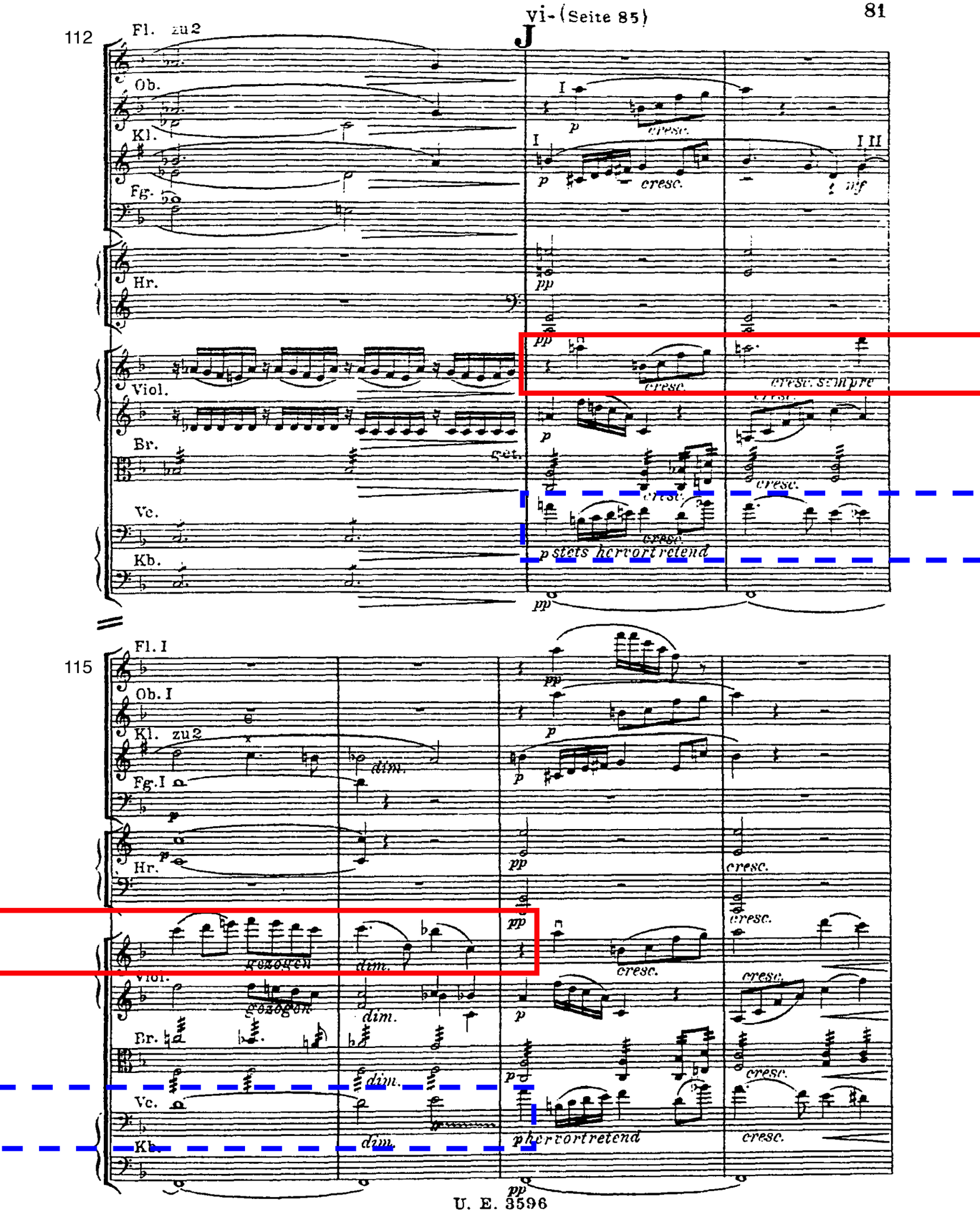


Borodin, In the Steppes of Central Asia, 40-53




6
50
C. ingl.
Cl.
(A)
Cor.
(F)
V-ni I
V-le
V-c.


A
15
Fl.
Ob.
Klar. (A)
Fag.
K.-Fag.
(E) Hr.
(C)
Trpt. (E)
Pos.
Pk.
1.Viol.
2.Viol.
Br.
Vcl.
K.-B.
mp
cresc.
f ben marc.
p a 2
a 2
ben marc.
mp ma marc.
div.
arco
A


Vi- (Seite 85)
J
112
Fl. zu 2
Ob.
Kl.
Fg.
Hr.
Viol.
Br.
Vc.
Kb.
I
I II
p
cresc.
mf
pp
cresc. sempre
get.
p stets hervortretend
115
Fl. I
Ob. I
Kl. zu 2
Fg. I
dim.
gezogen
p hervortretend

133

Très soutenu

Retenu

Bons

C. Bon

Cors 1re et 2e

Cors 3e et 4e

Tromp. en Fa

1° et 2°

3°

1° Sol

p un peu en dehors

pp

Très soutenu

Retenu

8. 1ers Vons Soli

Div. en 2

Vns I

Vns II

Altos

Velles

Cb.

div.

unis.

pizz.

139 53 au Mouvt

Retenu

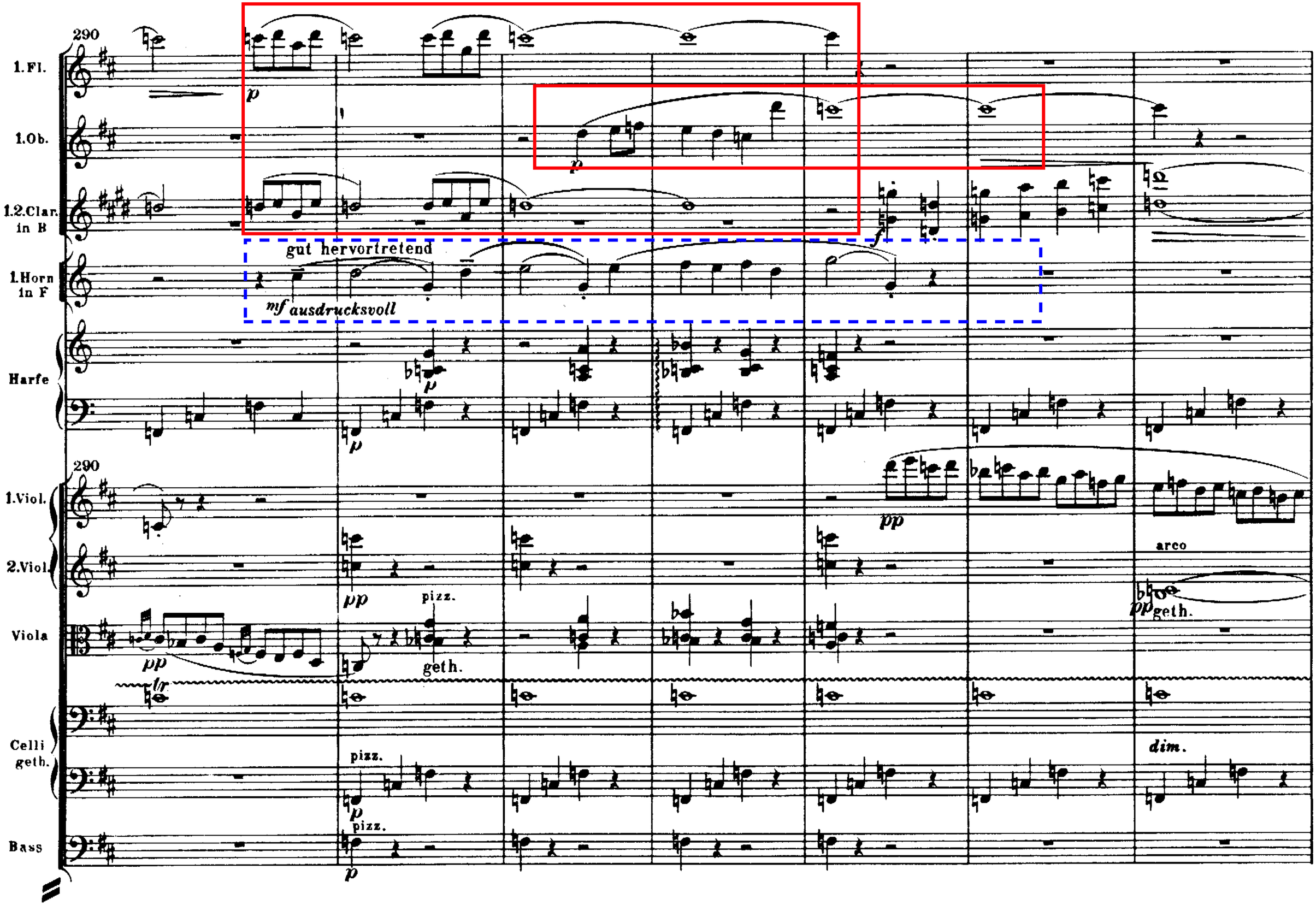
1. Solo

53 au Mouvt

Retenu

unis. pizz.

Mahler, Symphony 1, I, 290-295



Mahler, Symphony 1, IV, 277-281

270

1. 2. Fl. 3. 4.

1. 2. Ob. 3. 4.

1. in C Cl. 2. 3. in C Cl. 4. in Es

1. 2. Fag. Contra-fagott

1. 2. Horn in F 3. 4. Horn in F 5. Horn in F 6. 7.

1. Trp. in F 3. 4.

1. 2. Pos. 3. Pos. Tuba

1. Pauker

270

1. Viol. 2. Viol. Viola Cello Bass geth.

zu 2

F-Pauke von einem 2ten Musiker herunter nach Fes zu stimmen.

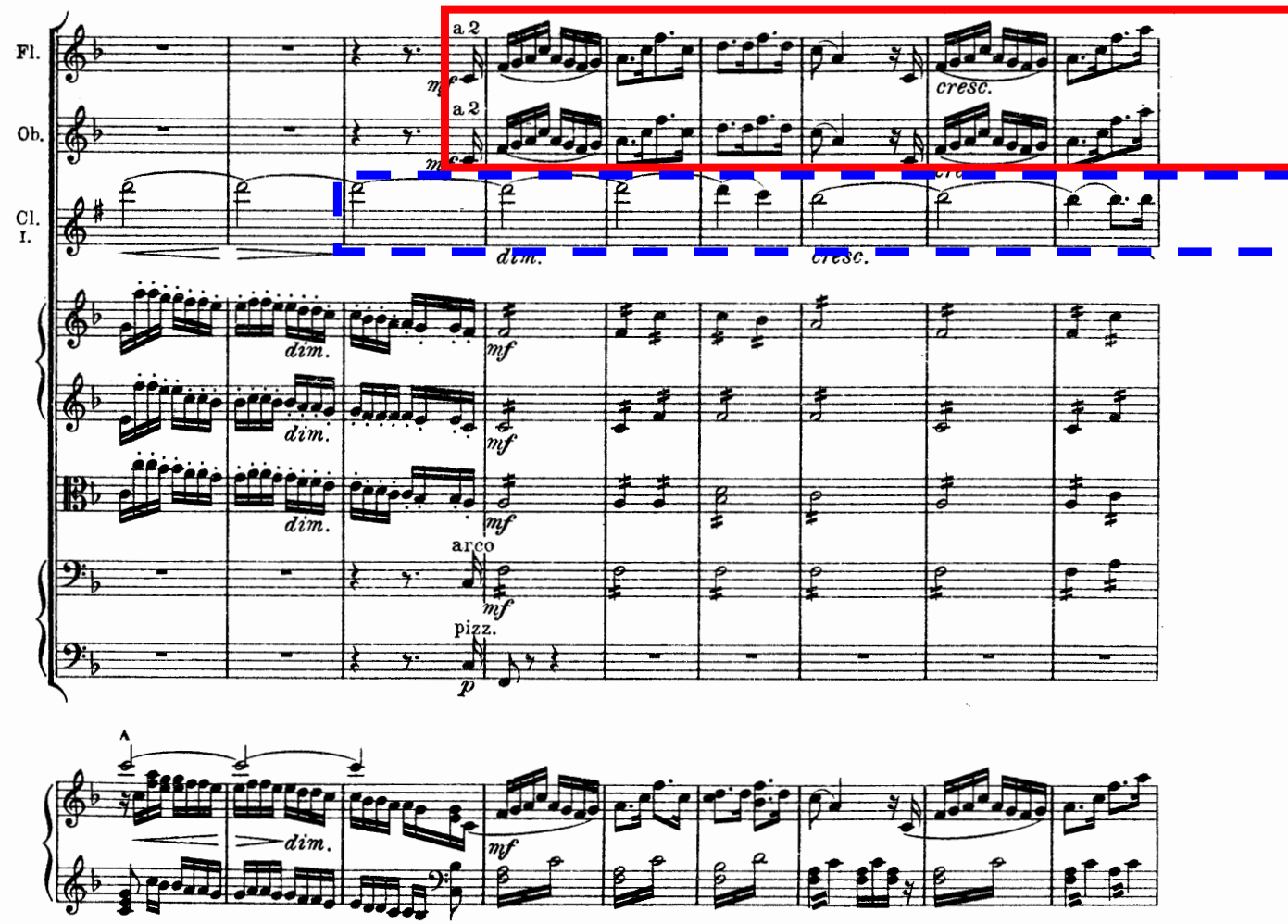
Mahler, Symphony 1, IV, 277-281 (cont'd)

278

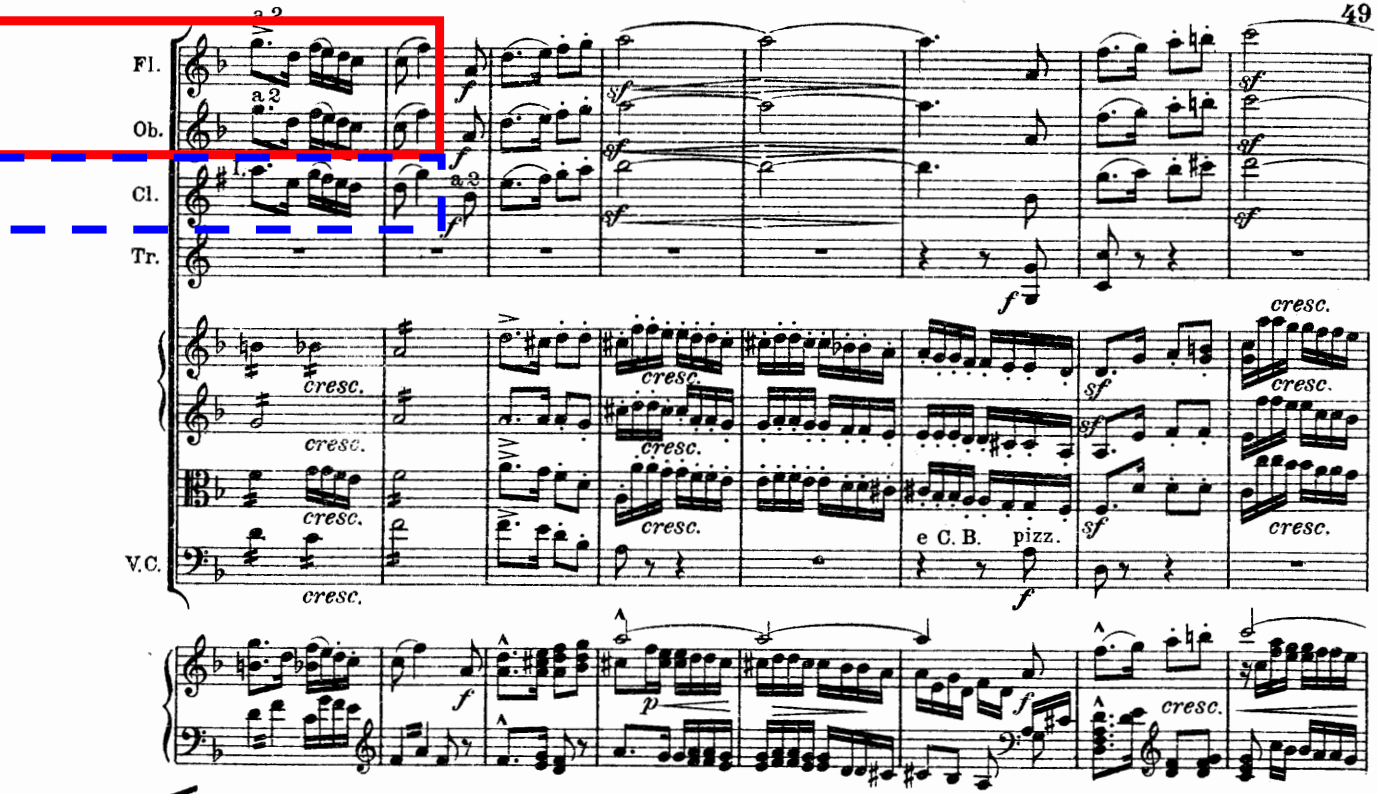
Nicht eilen

1. 2. Fl.
3. 4.
1. Ob.
3. Ob.
2. Ob.
4.
1. in C Cl.
2. 3. in C Cl.
4. in Es
1. 2. Fag.
Contra-fagott
1. 2. Horn in F
3. 4. Horn in F
5. Horn in F
6. 7.
1. 2. Trp. in F
3. 4.
1. 2. Pos.
3. Pos. Tuba
1. 2. Pauken
Becken
1. Viol.
2. Viol.
Viola
Cello
Bass

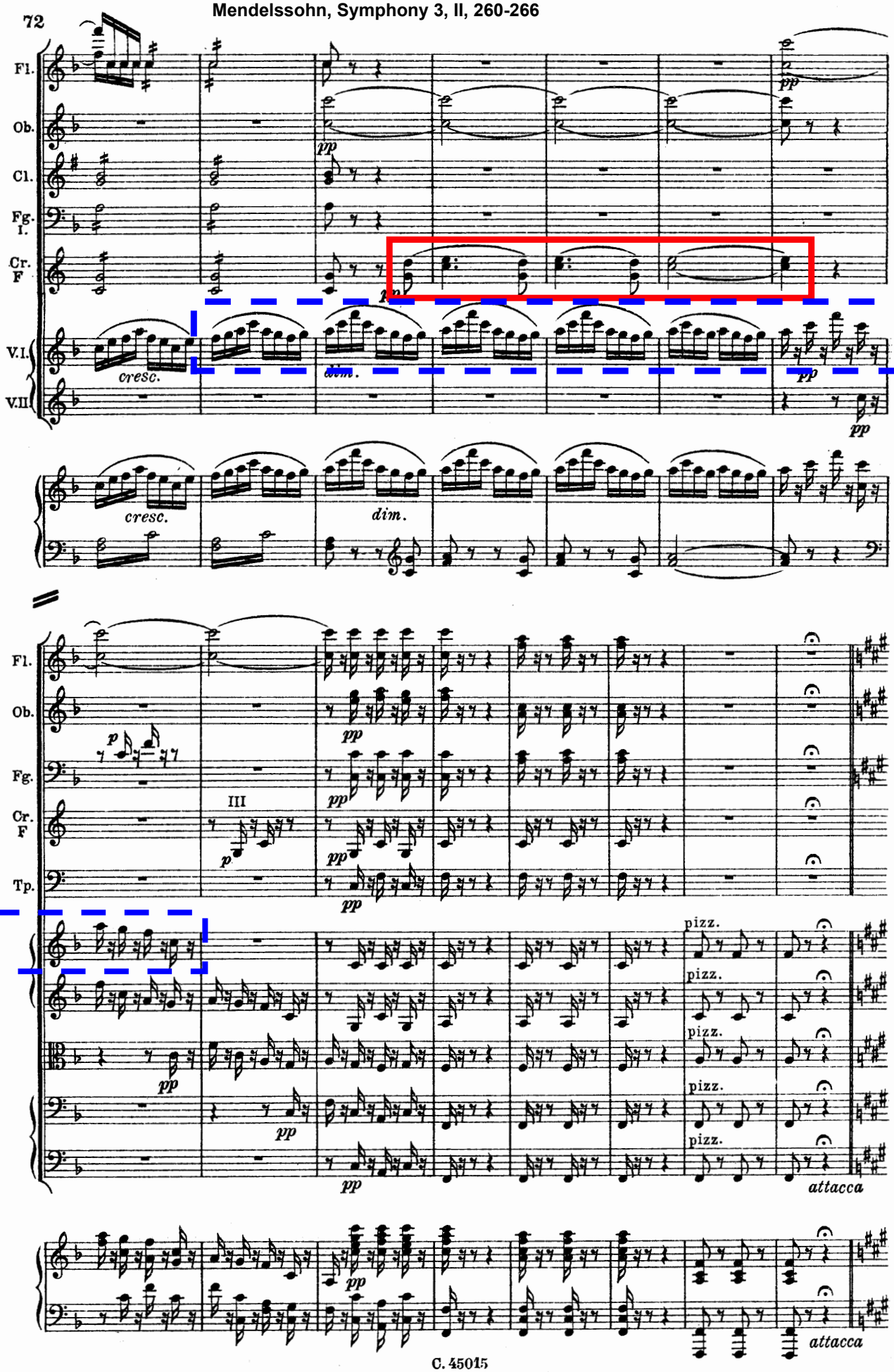
Mendelssohn, Symphony 3, II, 32-39



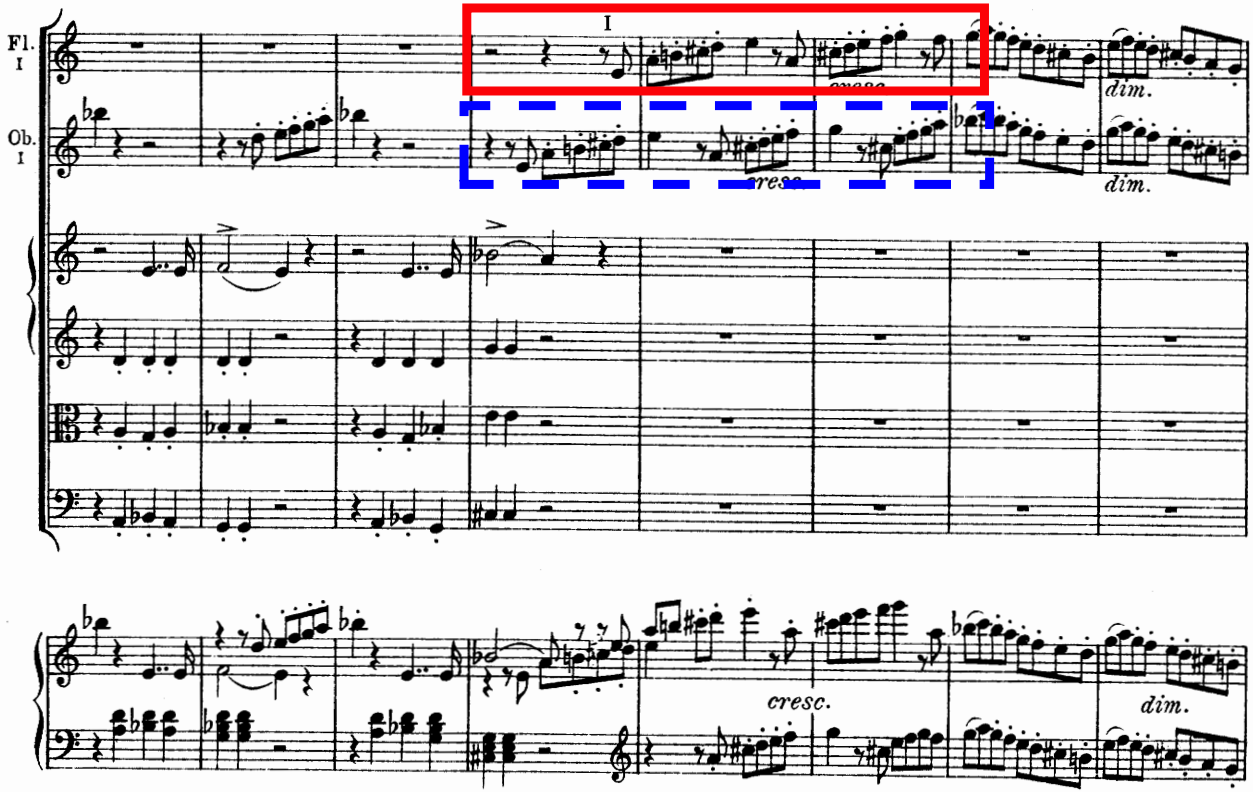
Mendelssohn, Symphony 3, II, 32-39 (cont'd)



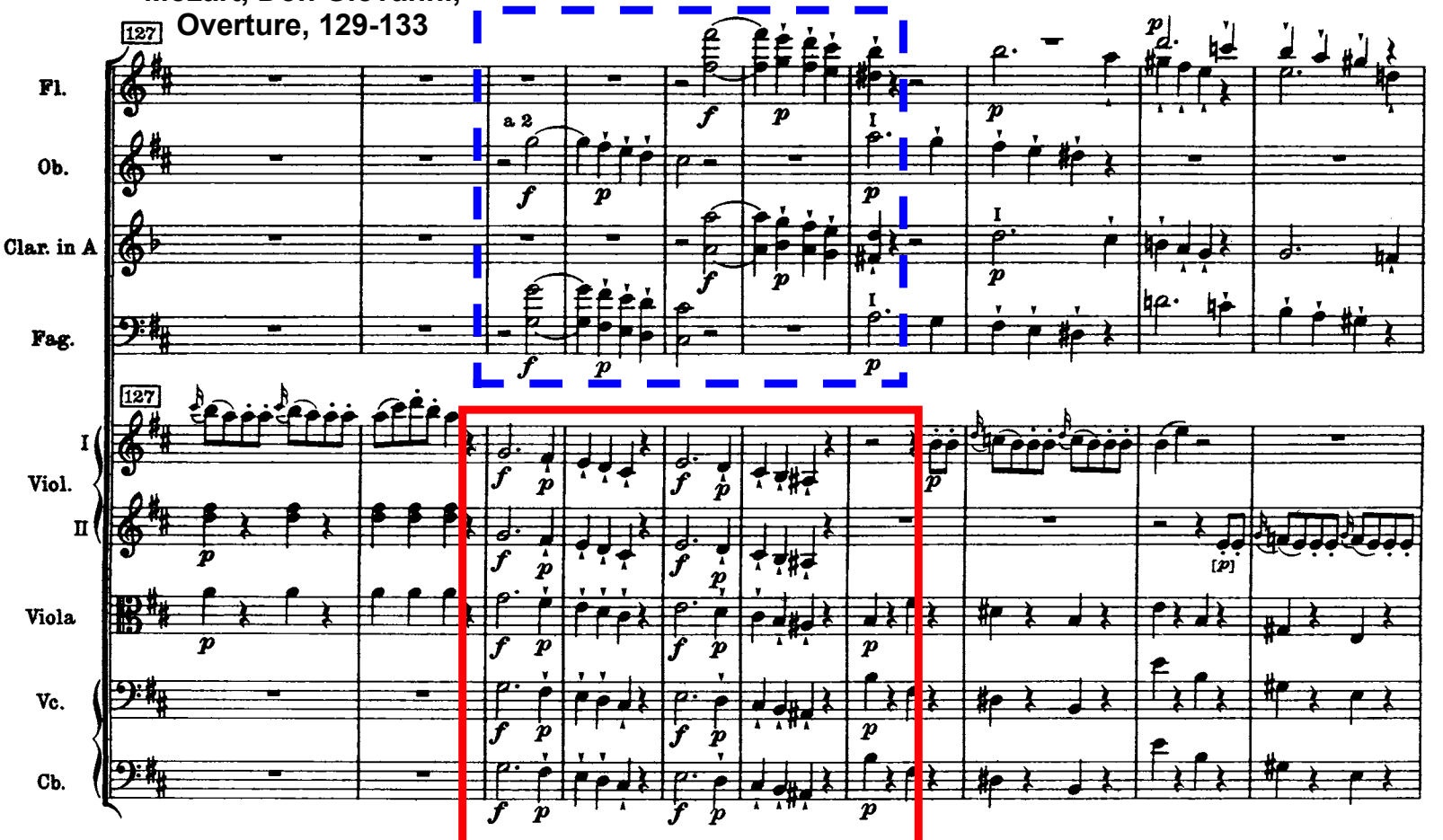
Mendelssohn, Symphony 3, II, 260-266



Mendelssohn, Symphony 3, IV, 176-179



Mozart, Don Giovanni,
Overture, 129-133



15

Poco a poco accel.

Fl.

Pte Fl

Prenez la Grande Flûte

Htb. 1 2 3

Cl. 1 2

Cl.B.

pp

Bons

C.Bon

2º (hauteur réelle)

Cors 1 2

p

Trp. 2 3

3e Trb. Tuba

ff

Timb.

Fonet

ff

Cymb.

Gr.C.

15

Poco a poco accel.

Vons

port.

ff

Altos

Vlles

Div.

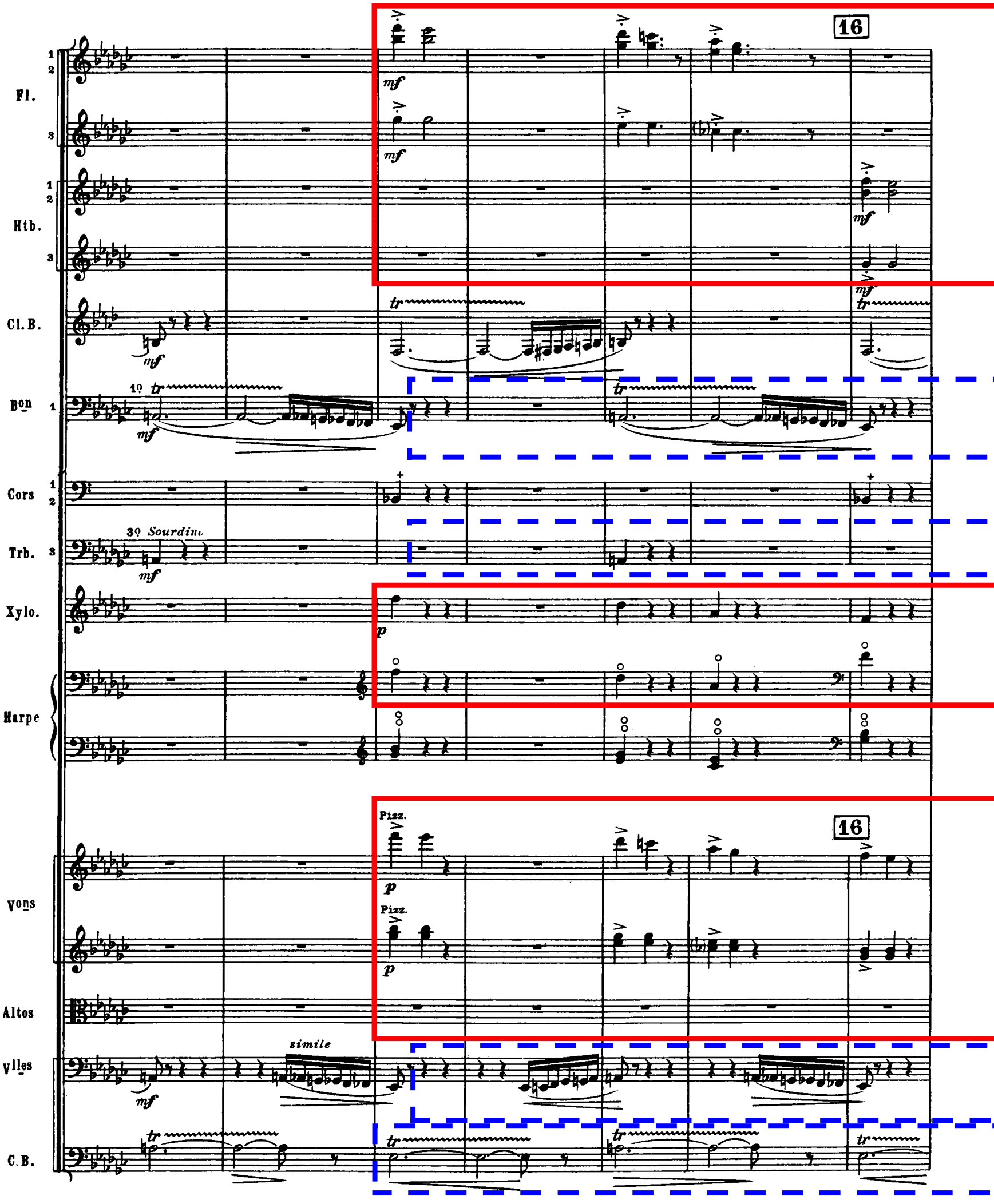
Unis gliss.

p

C.B.

Unis

pp


16
Fl.
Htb.
Cl. B.
Bon
1º
Cors
Trb.
3º Sourdine
Xylo.
Harpe
Pizz.
Vons
Altos
Vlles
simile
C. B.
mf
p
tr

Htb. 1 2 3

Cl. 1 2

Cl.B.

Bons 1 2

Cors 1 2

Trb. 3

Xylo.

Harpe

Vons

Unis

Altos

Div. Pizz.

Vlles

C.B.

17

Fl.

Htb.

Cl.

Cl.B.

Bons

Cors

Trp.

Trb.

3e Trb.
Tuba

récelle

Cymb.

Xylo

Harpe

Vons

Altos

Vlles

C.B.

1o tr

3o tr

Sourdines

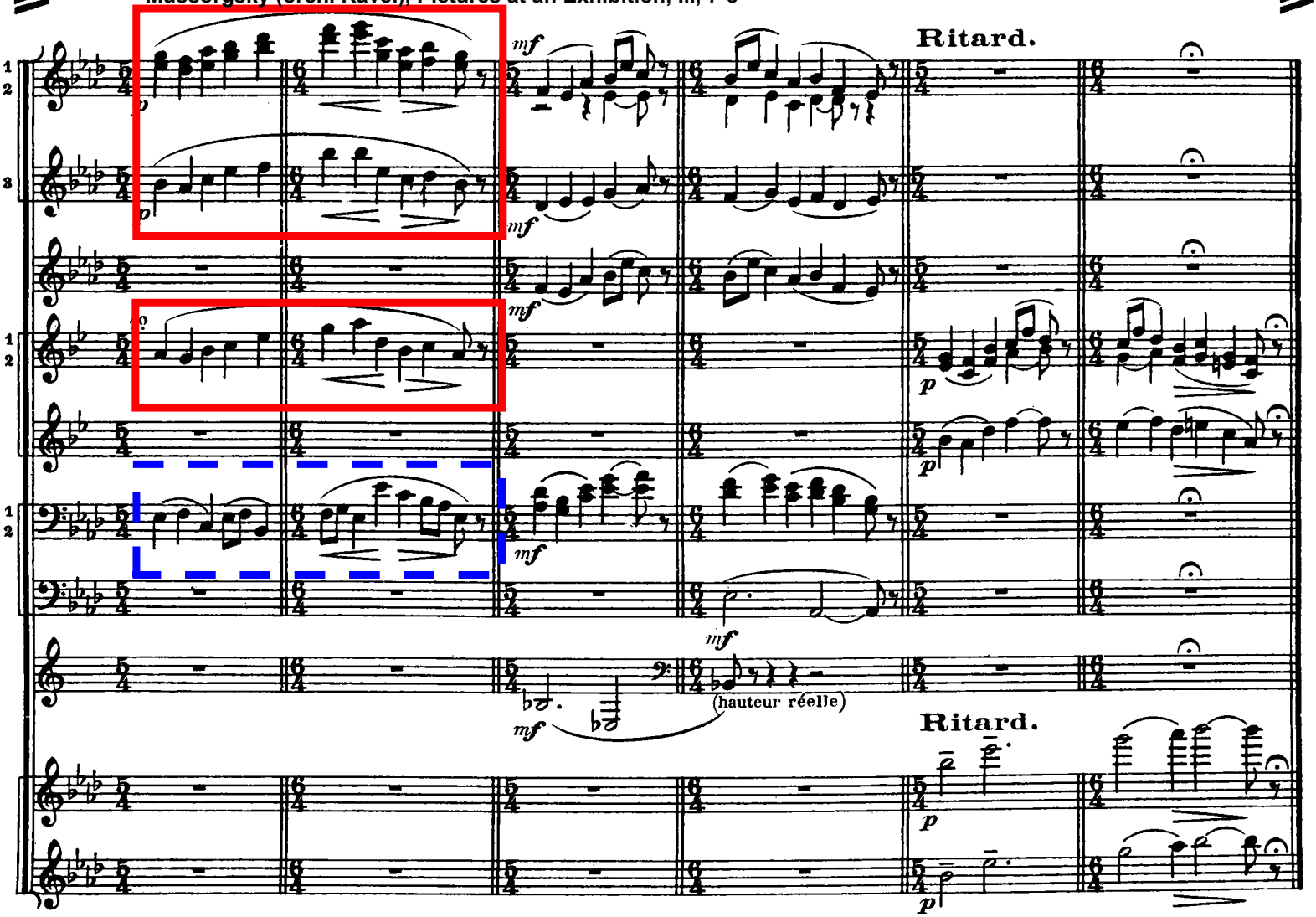
Sourdine

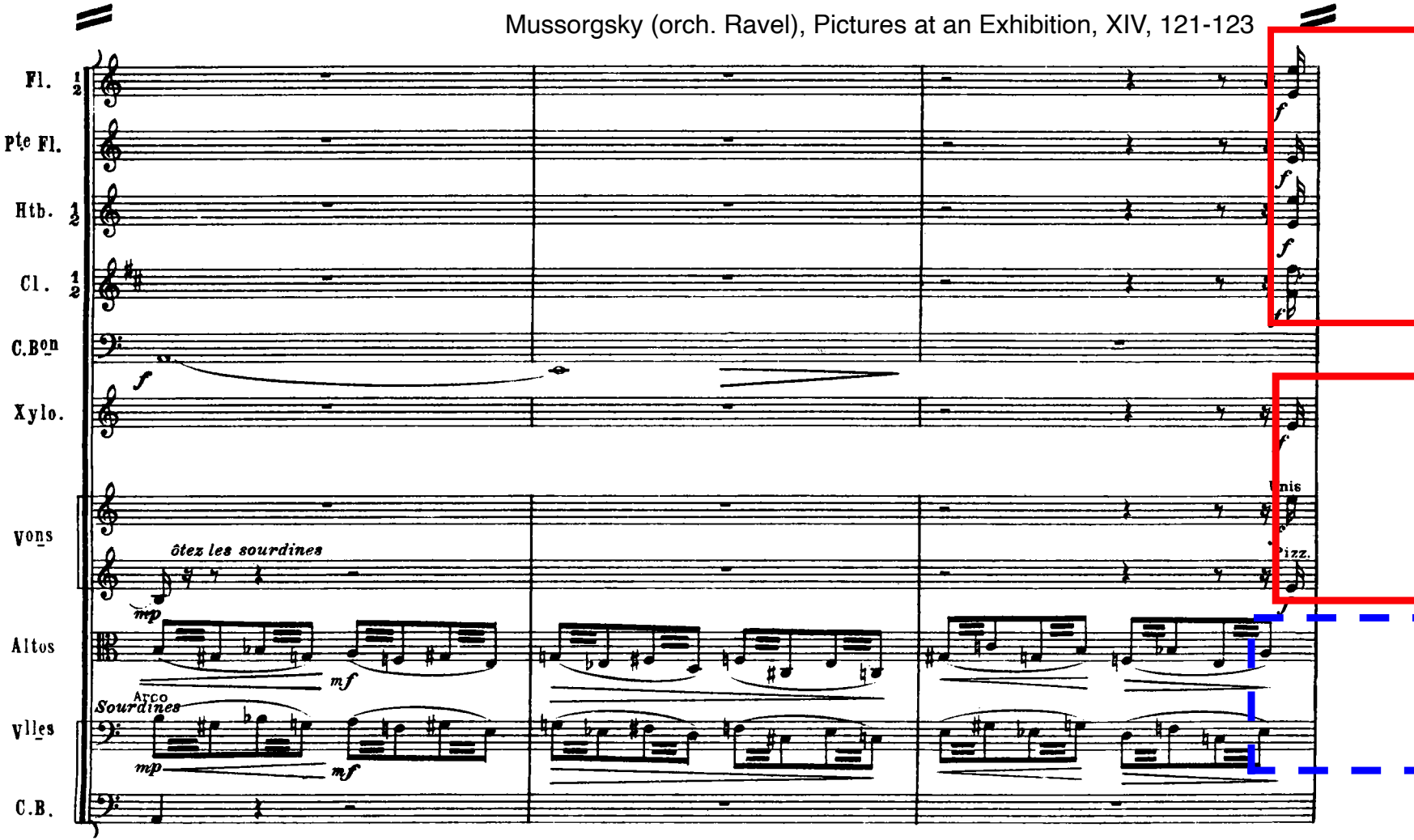
Tuba

Unis

Pizz.

LA♭


Ritard.
Fl.
Htb.
Cl.
Cl.B.
Bons
C.Bon
Cor
(hauteur réelle)
Ritard.
Vons


Fl. 1 2
Pte Fl.
Htb. 1 2
Cl. 1 2
C.Bon
Xylo.
Vons
ôtez les sourdines
mp
Altos
mf
Arco
Sourdines
Vlles
mp
mf
C.B.
f
Unis
Pizz.

94 Allegro molto

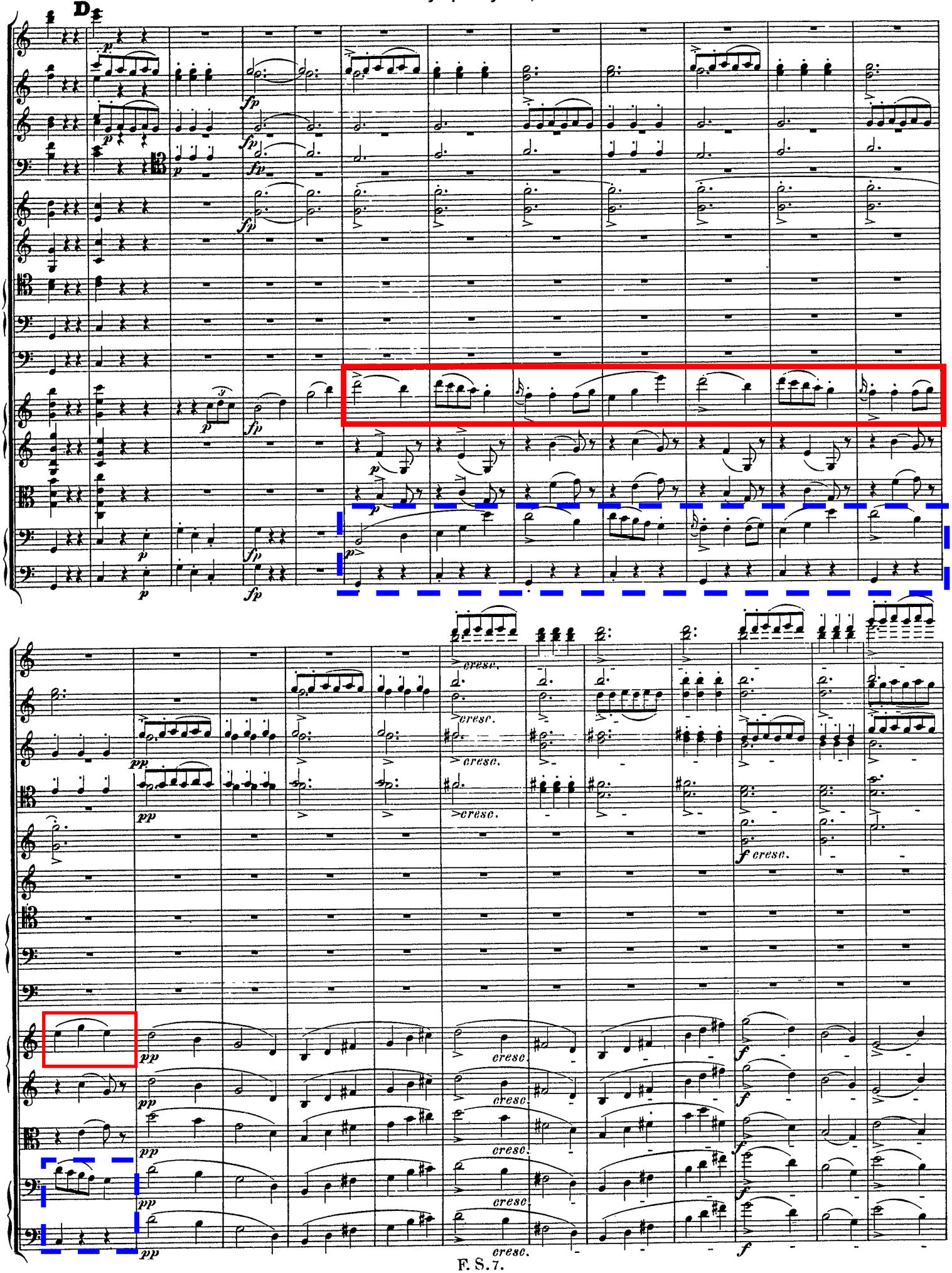
Fl.
Pte Fl.
Htb.
Cl.
Cl.B.
Bons
C.Bon
Cors
Tuba
Gr.C.
T.Tam
Xylo.
Vons
Altos
Vlles
C.B

a 2

ôtez les sourdines

Sourdines

Schubert Symphony 9 III, 198-205



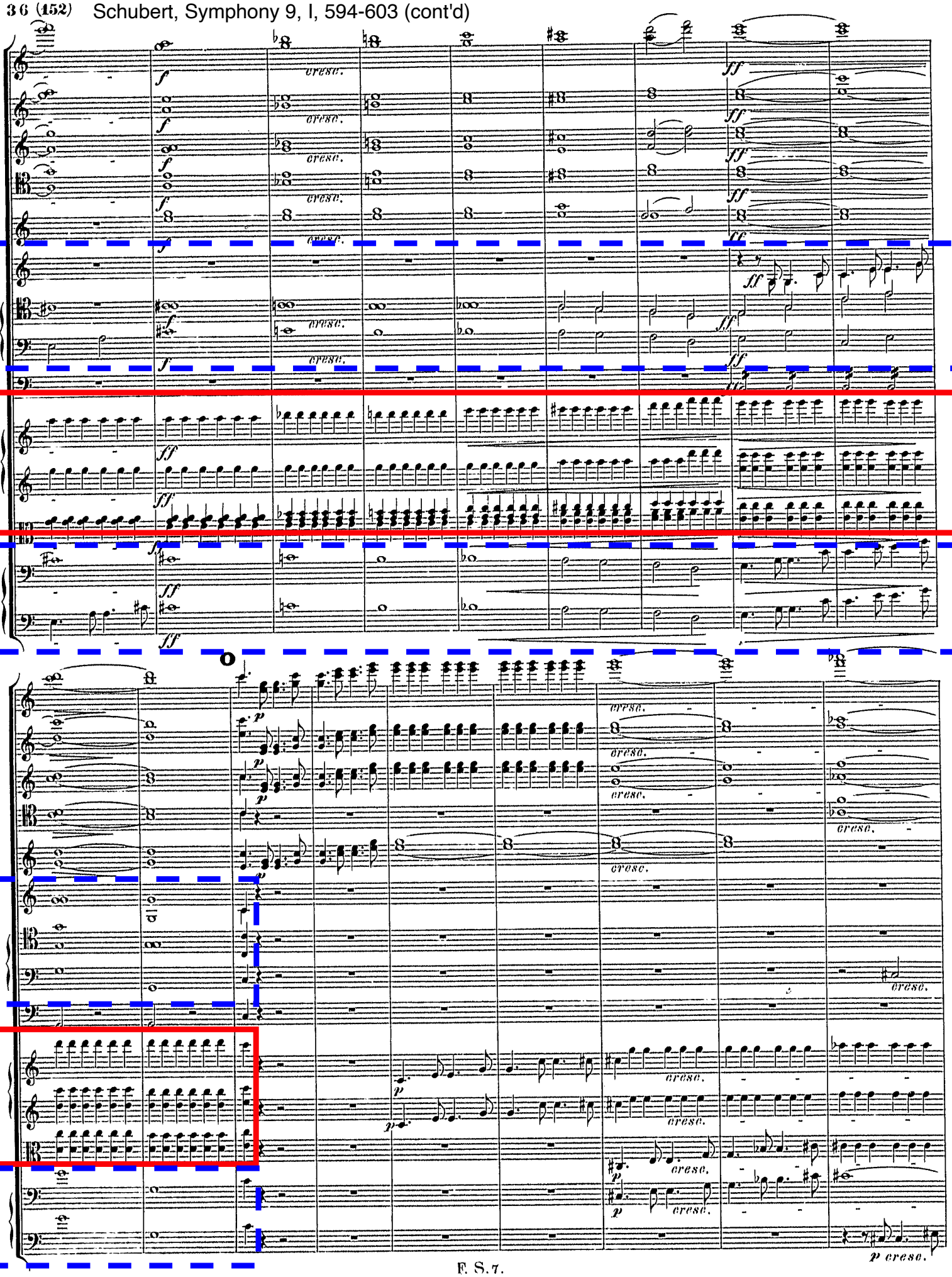
30

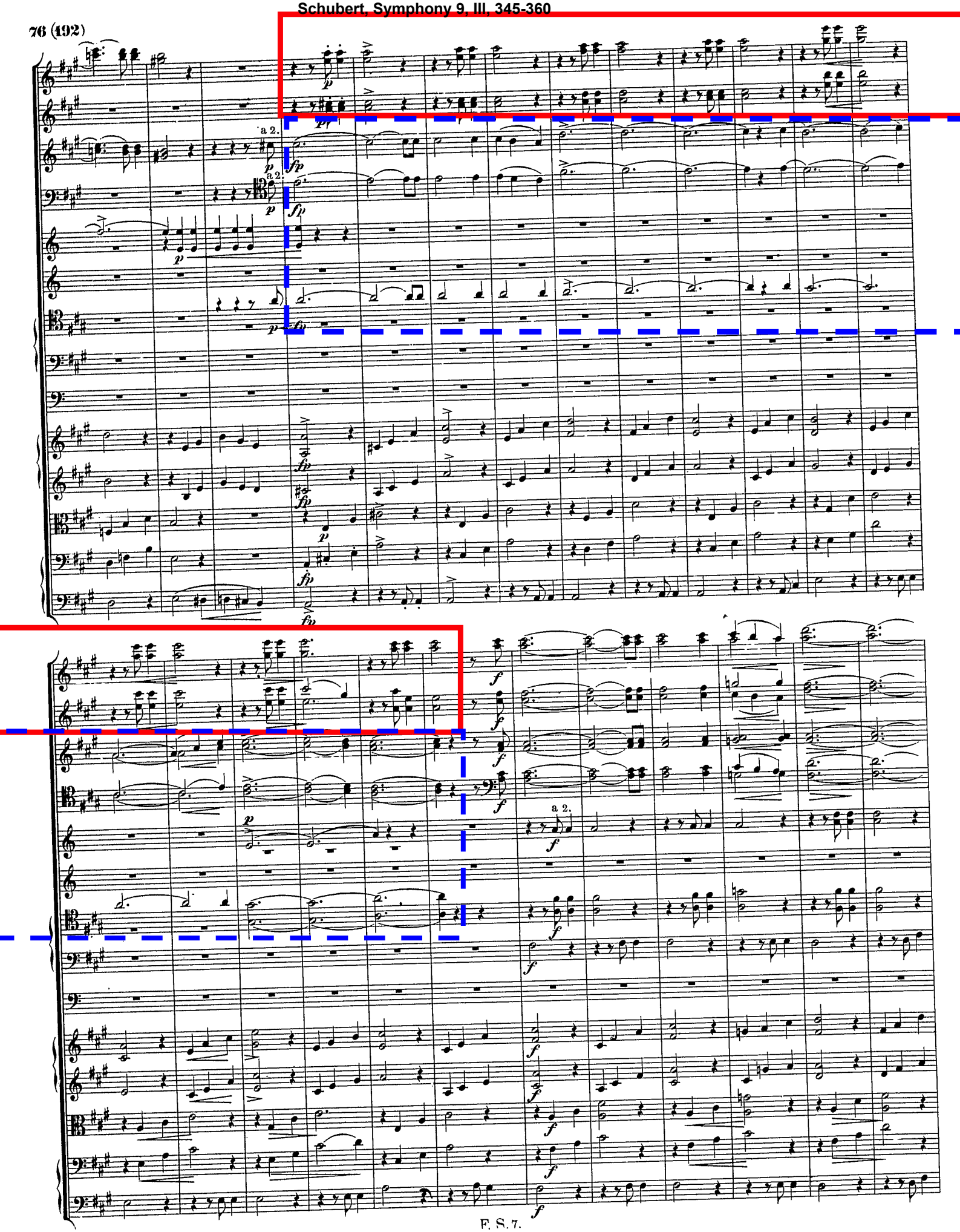
cresc.

F. S. 8.

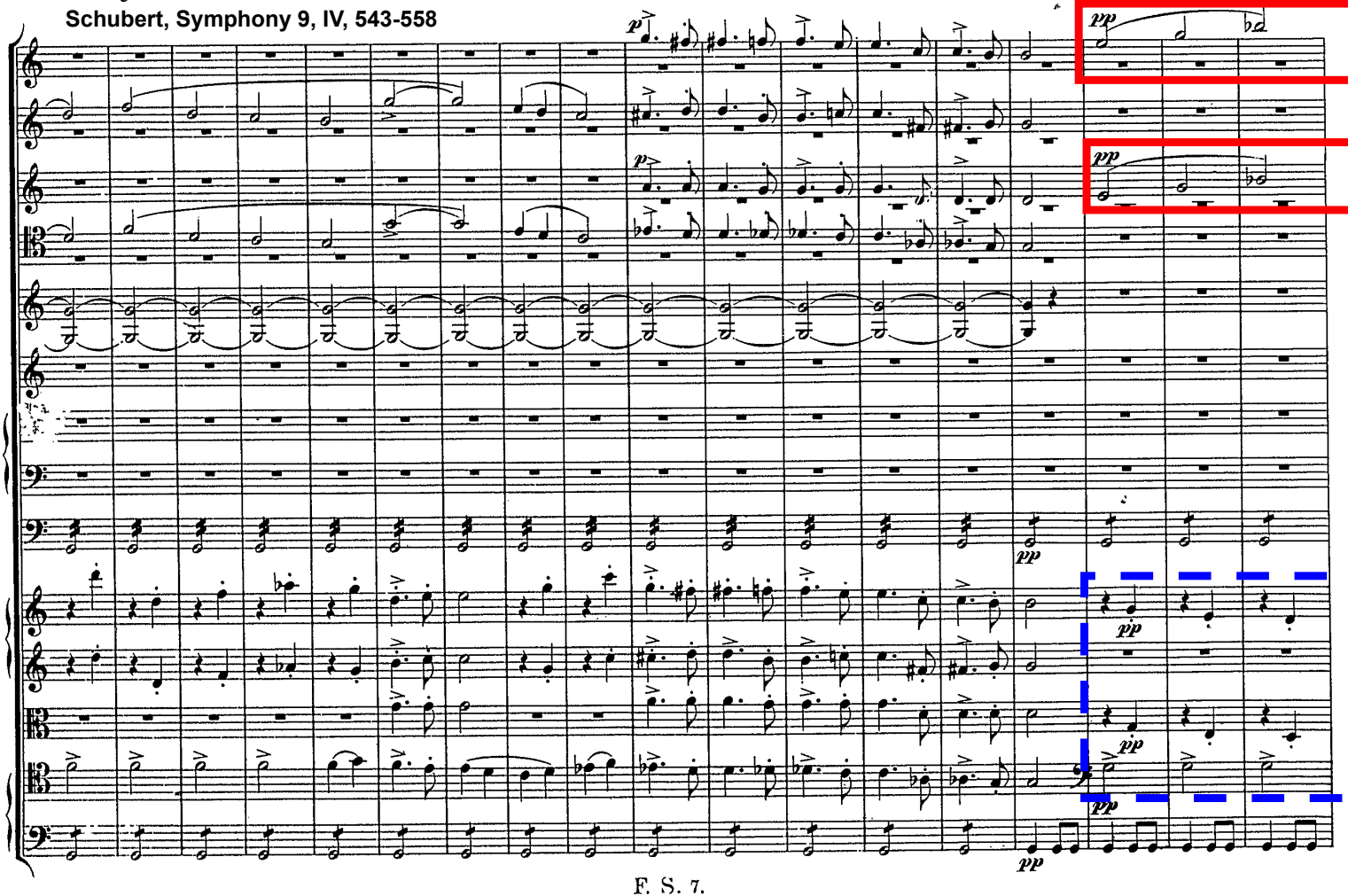
Schubert, Symphony 8, I, 31-35

Schubert, Symphony 9, I, 594-603

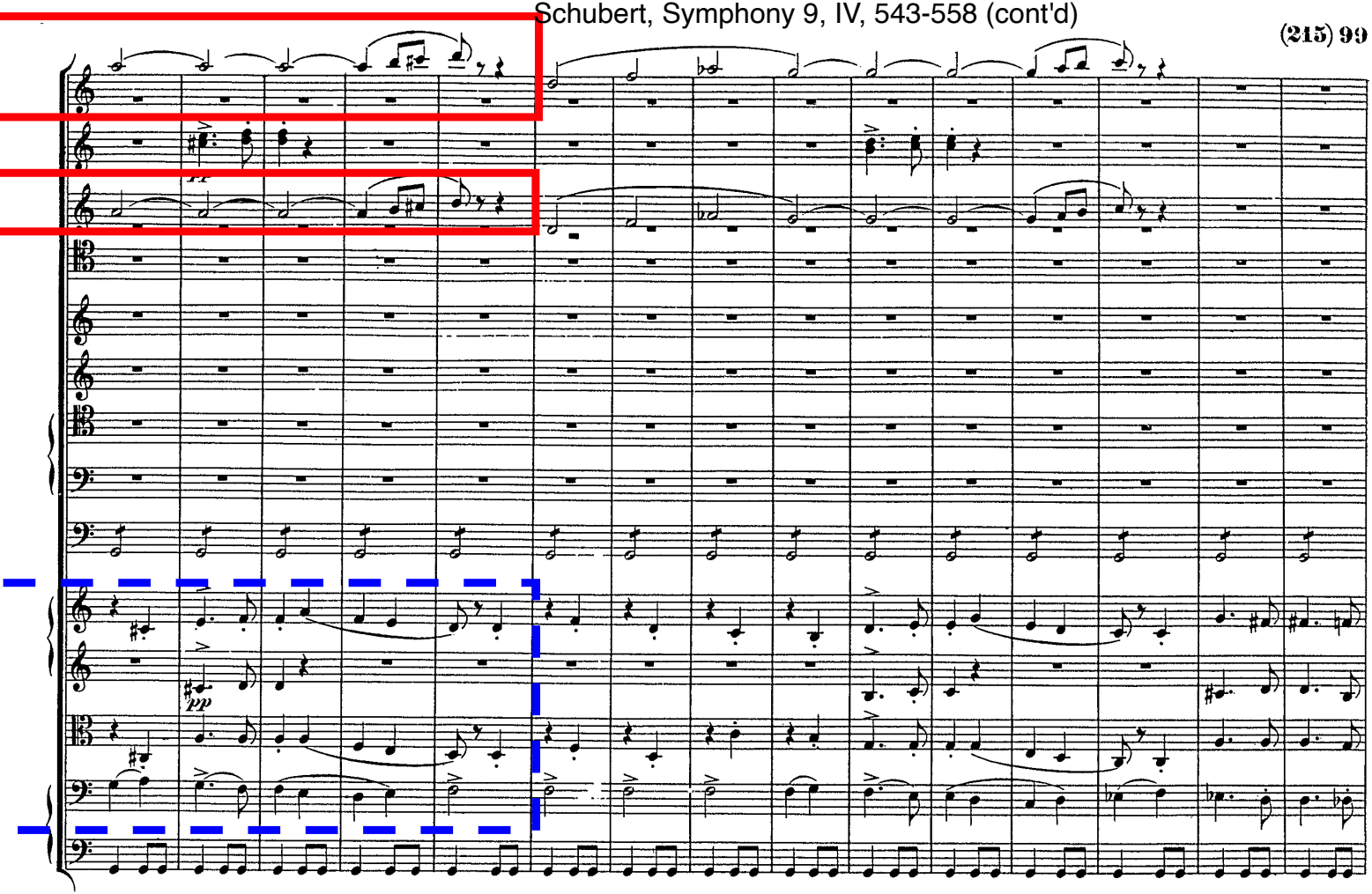

cresc.
ff
fp
p cresc.

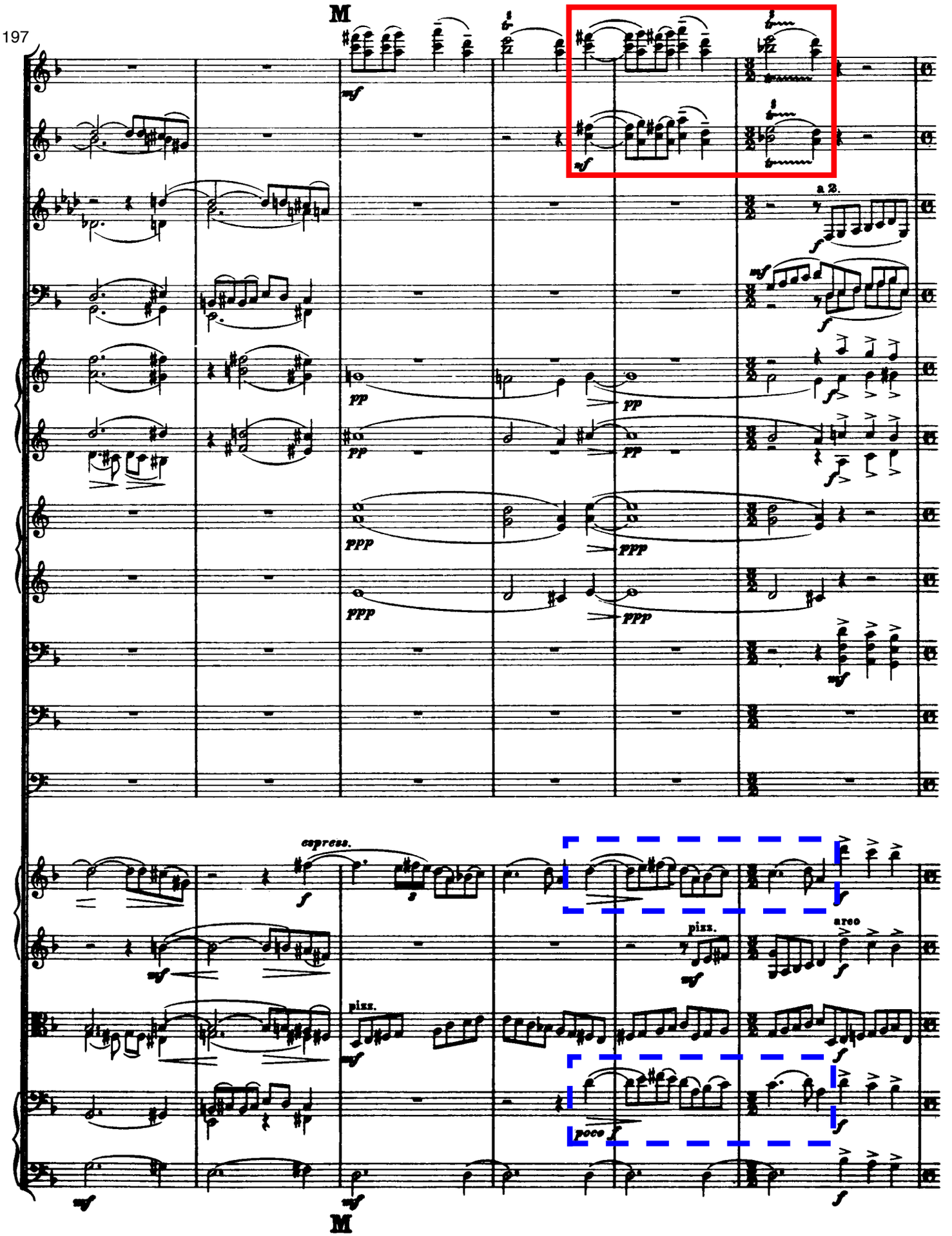

a 2.
a 2.
a 2.

Schubert, Symphony 9, IV, 543-558

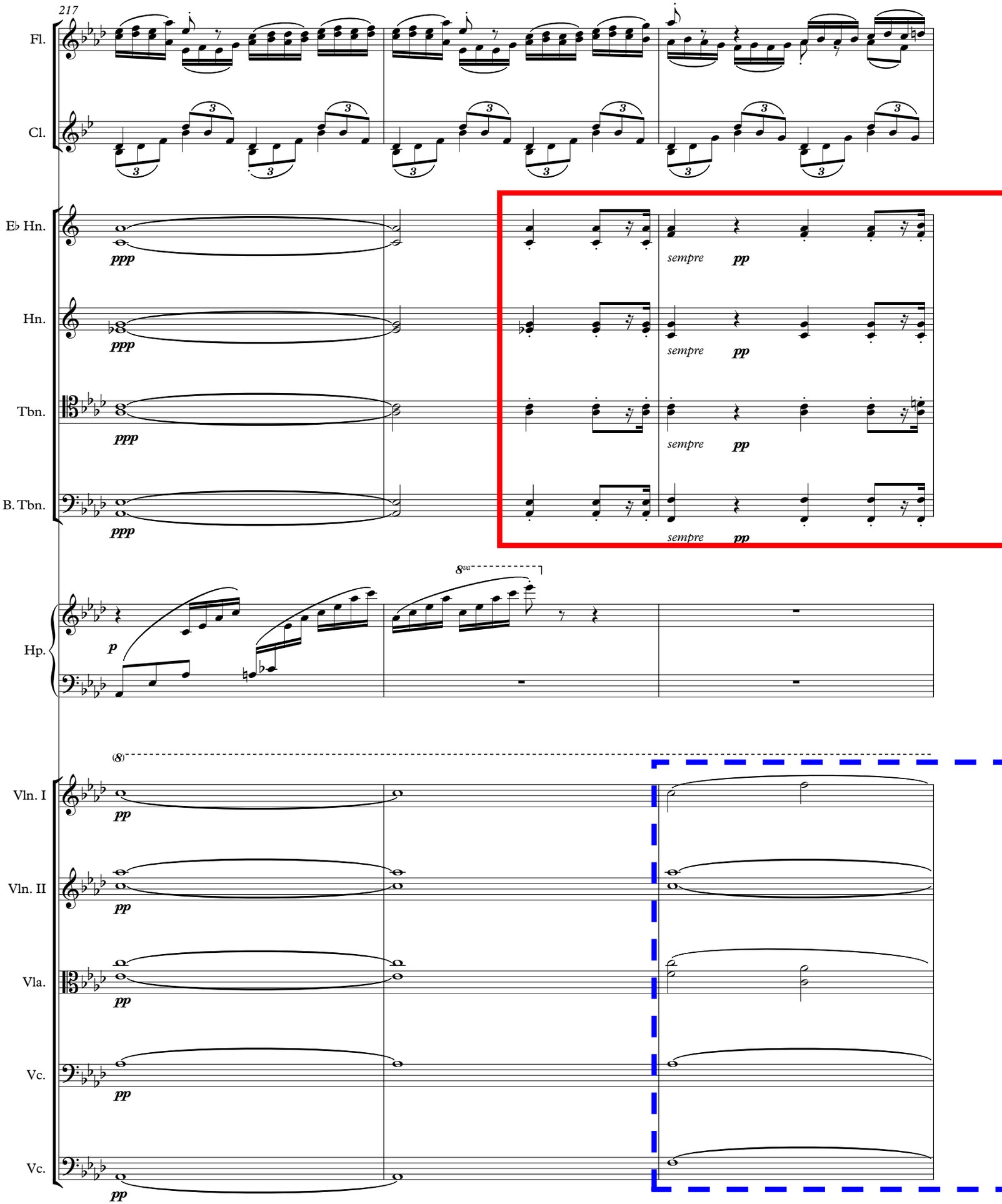


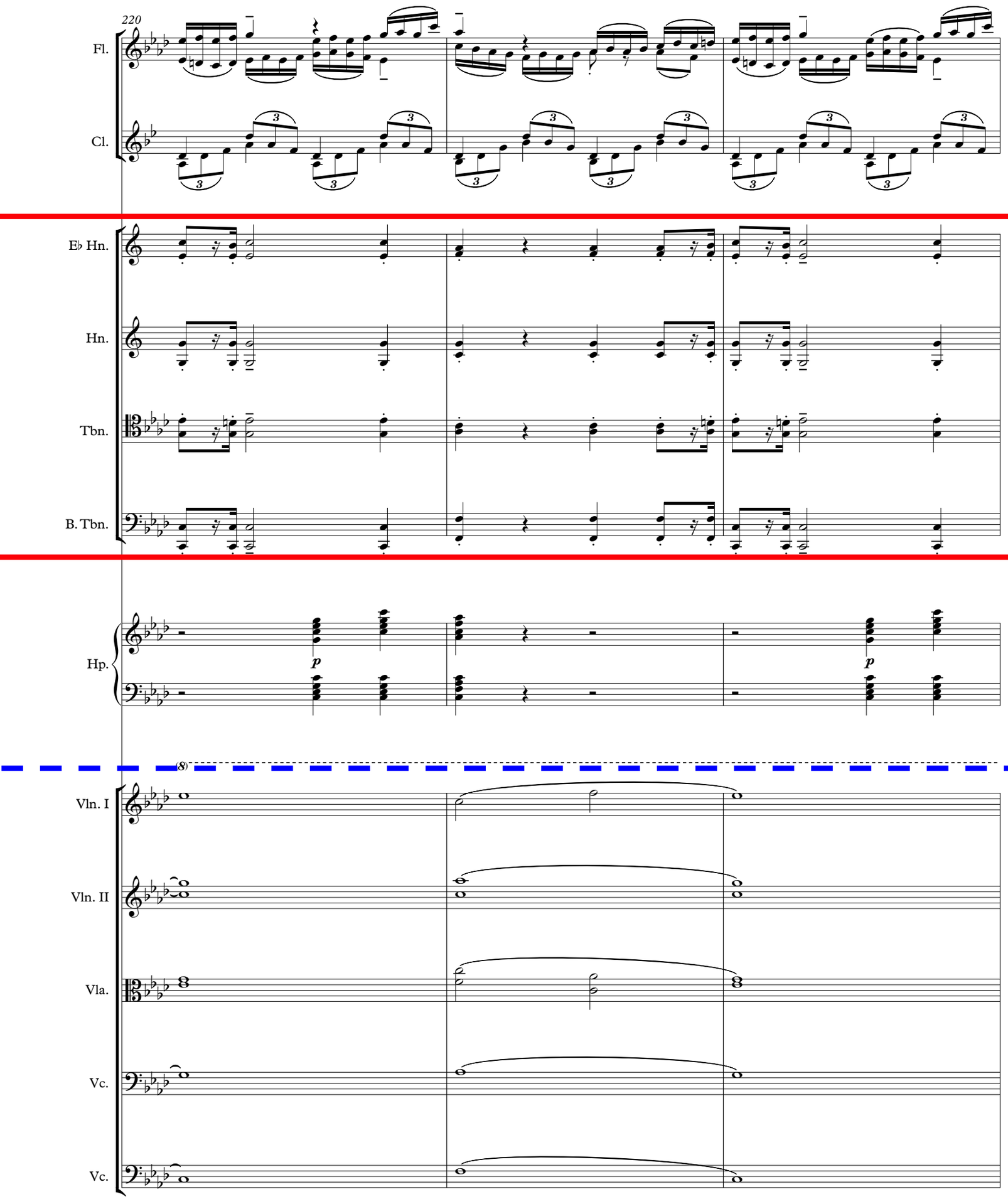
Schubert, Symphony 9, IV, 543-558 (cont'd)

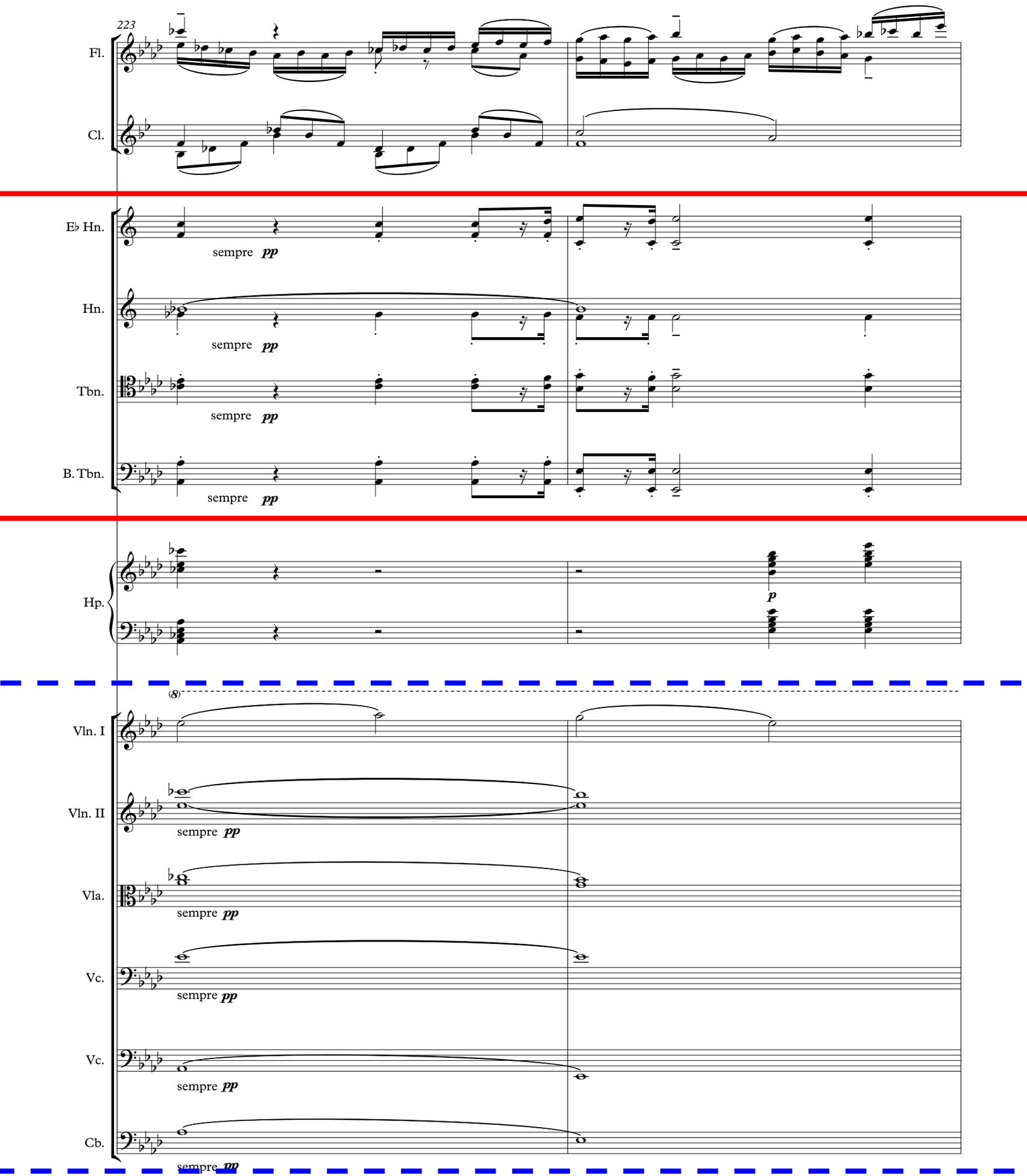


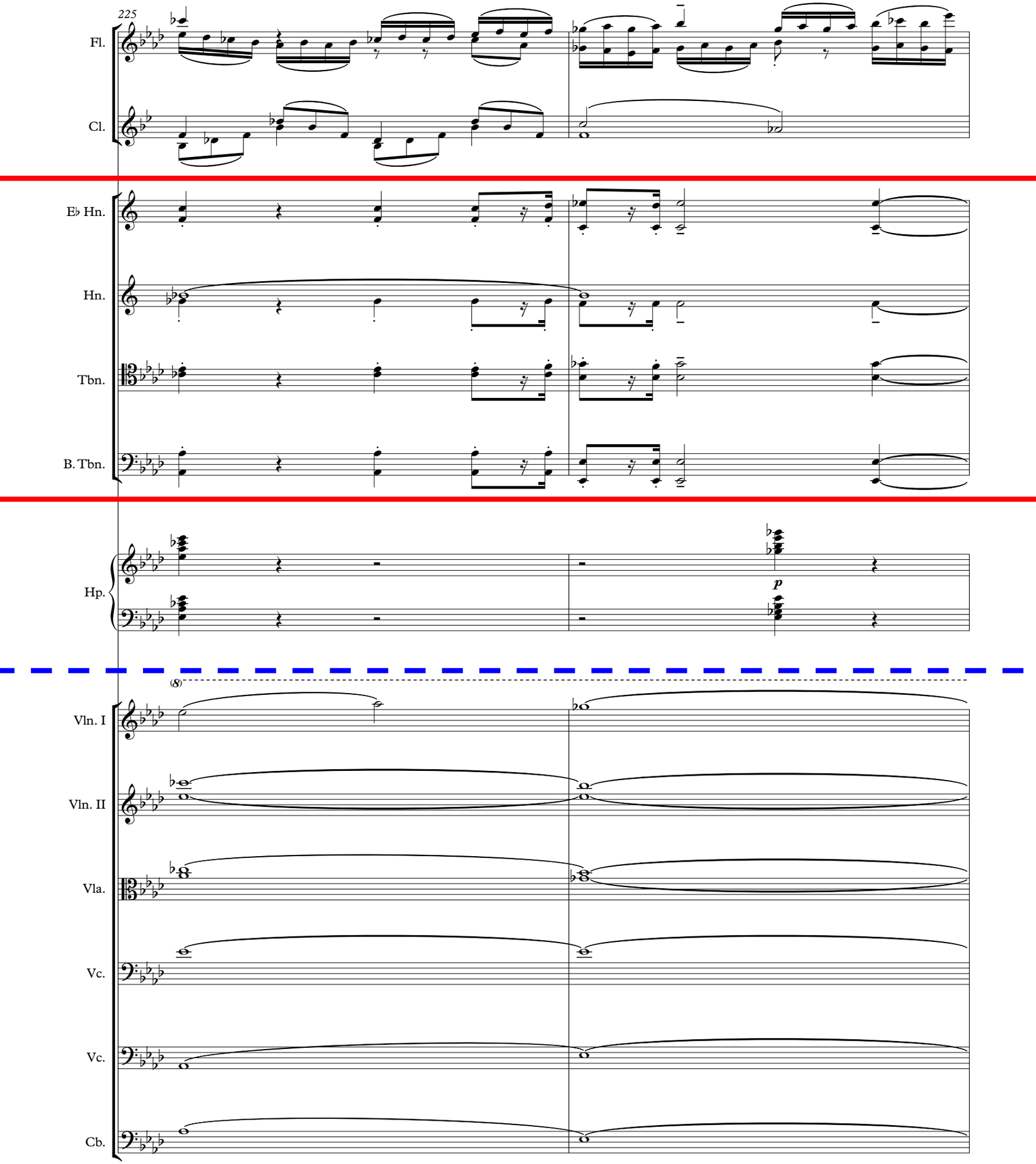

197
M
a 2.
espress.
pizz.
arco
pizz.
poco f
M

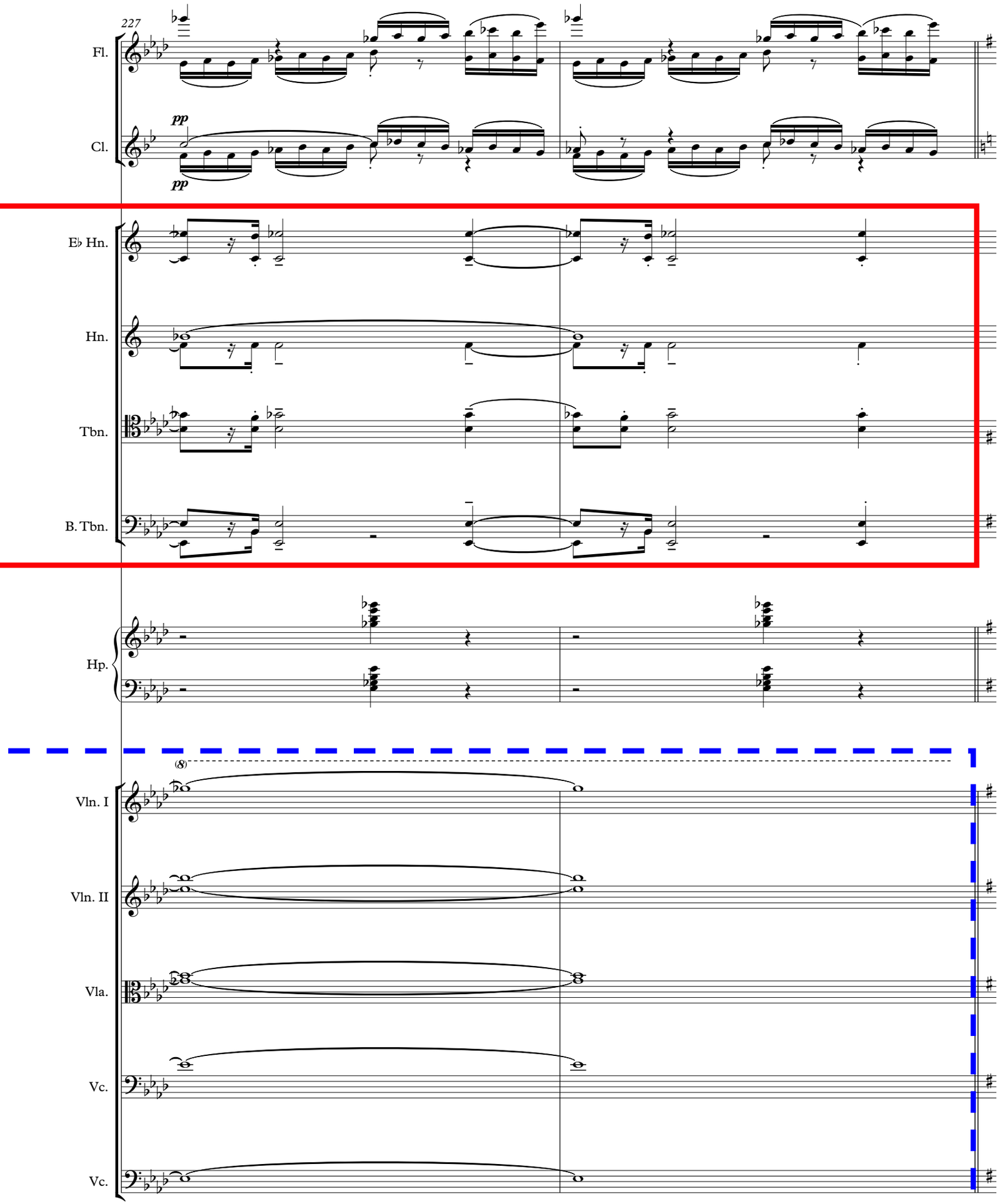
Smetana, Ma Vlast, Die Moldau, 218-228



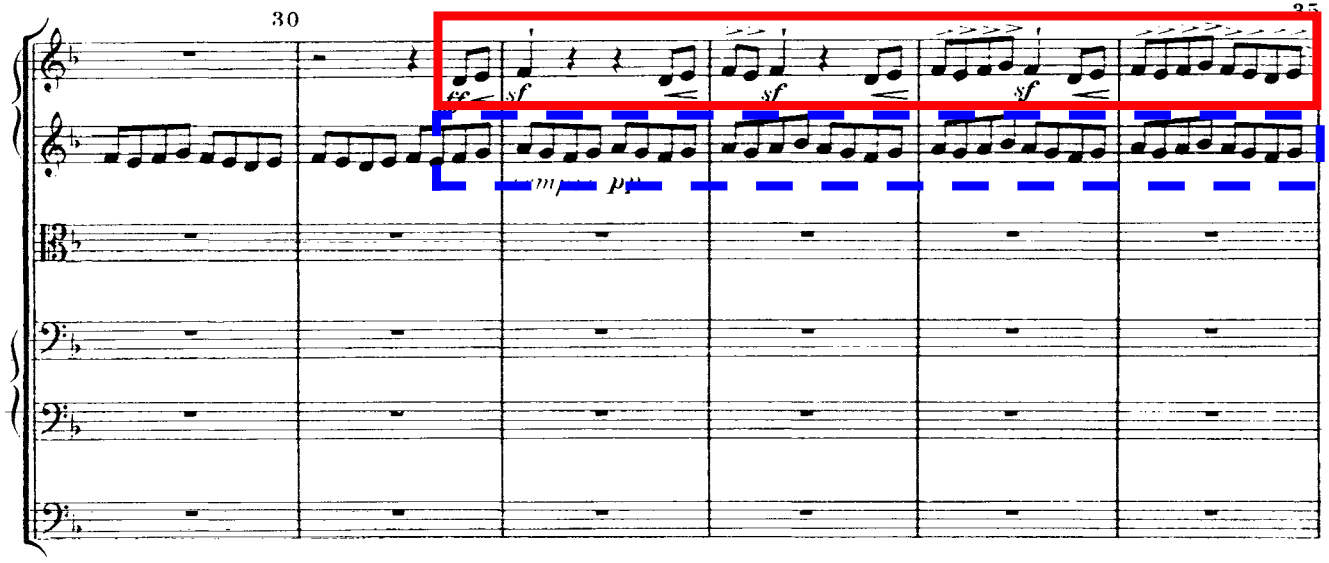

220
Fl.
Cl.
E♭ Hn.
Hn.
Tbn.
B. Tbn.
Hp.
p
p
8
Vln. I
Vln. II
Vla.
Vc.
Vc.

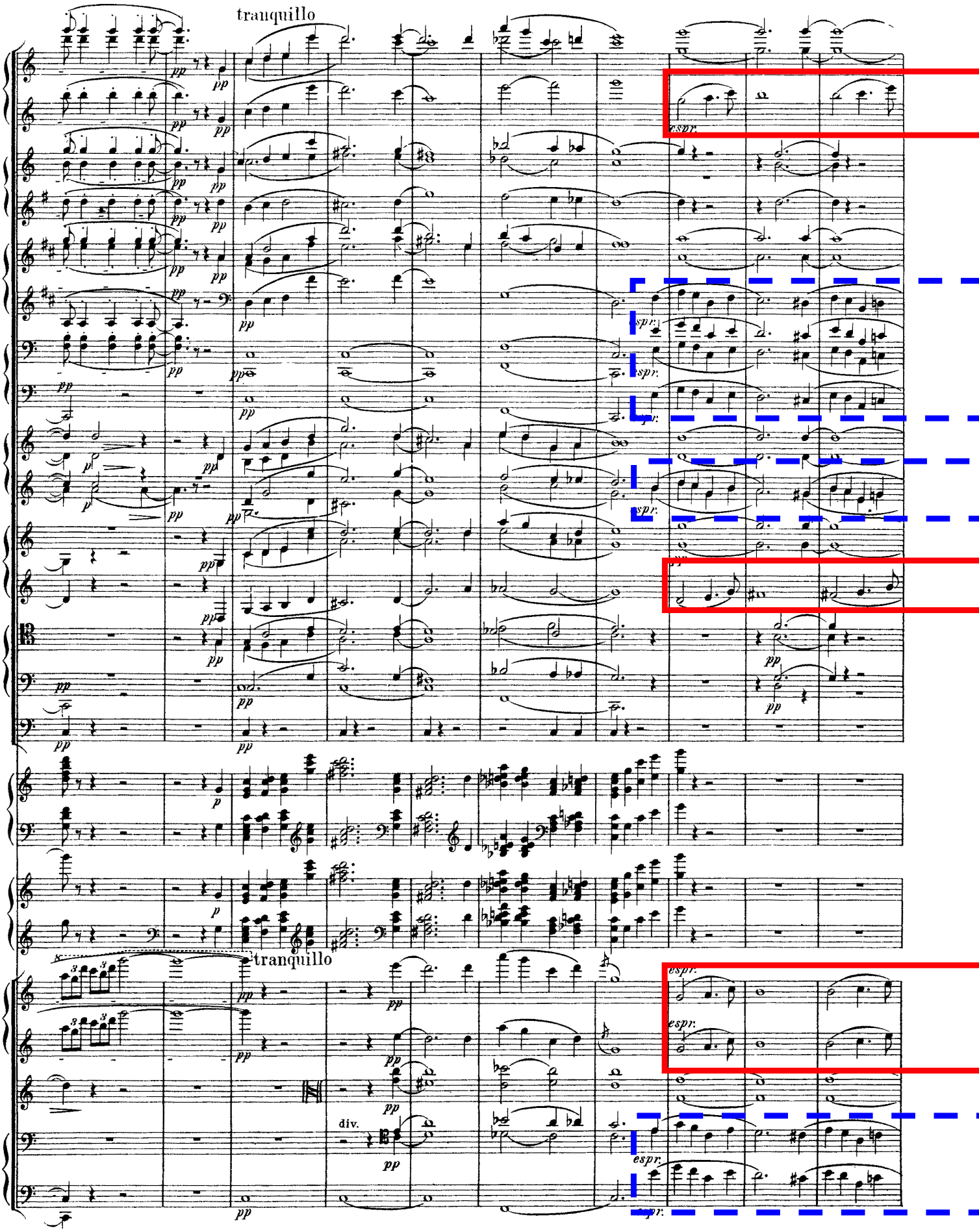

223
Fl.
Cl.
E♭ Hn.
sempre pp
Hn.
sempre pp
Tbn.
sempre pp
B. Tbn.
sempre pp
Hp.
p
(8)
Vln. I
Vln. II
sempre pp
Vla.
sempre pp
Vc.
sempre pp
Vc.
sempre pp
Cb.
sempre pp

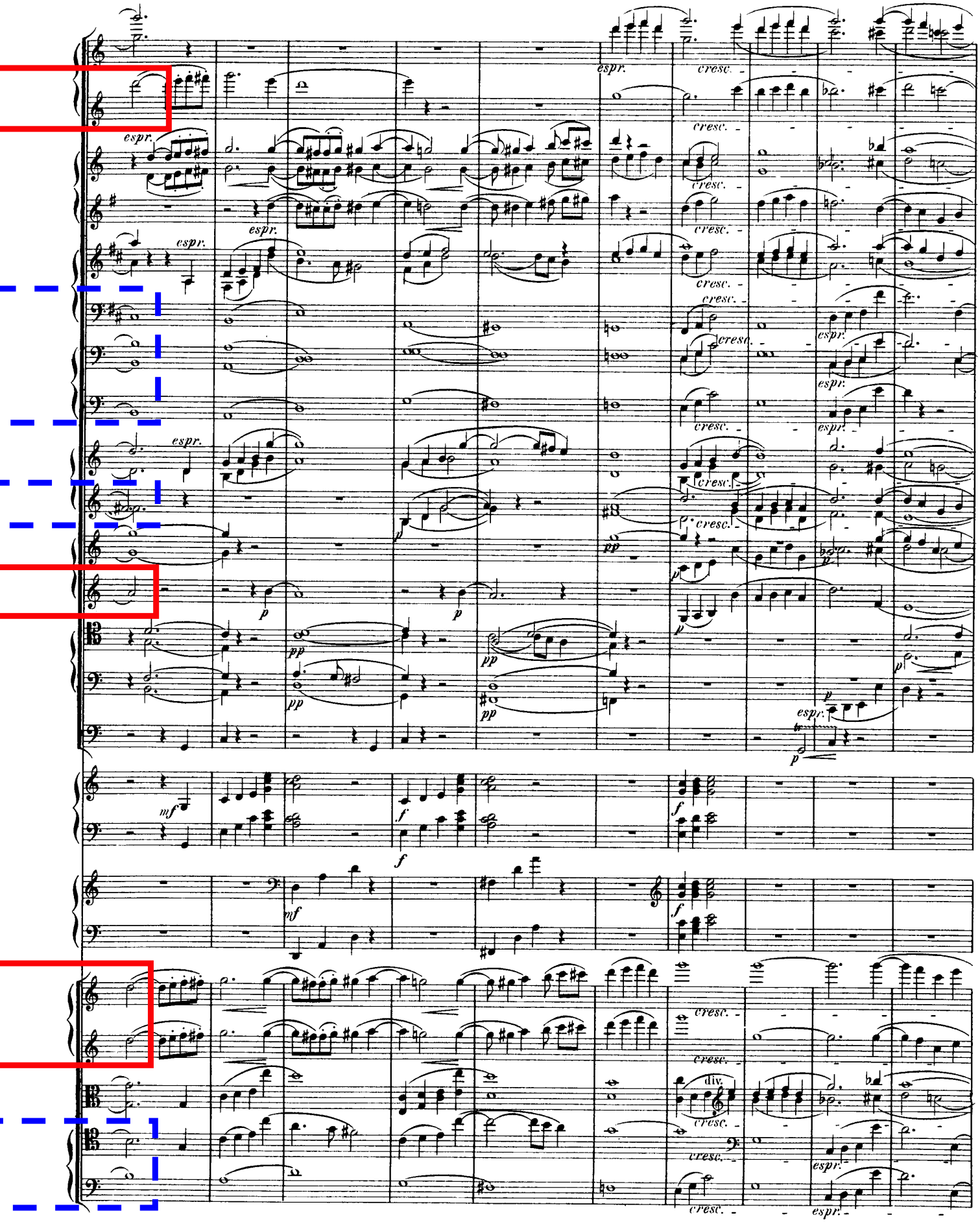

225
Fl.
Cl.
E♭ Hn.
Hn.
Tbn.
B. Tbn.
Hp.
p
(8)
Vln. I
Vln. II
Vla.
Vc.
Vc.
Cb.


227
Fl.
Cl.
pp
pp
E♭ Hn.
Hn.
Tbn.
B. Tbn.
Hp.
(8)
Vln. I
Vln. II
Vla.
Vc.
Vc.

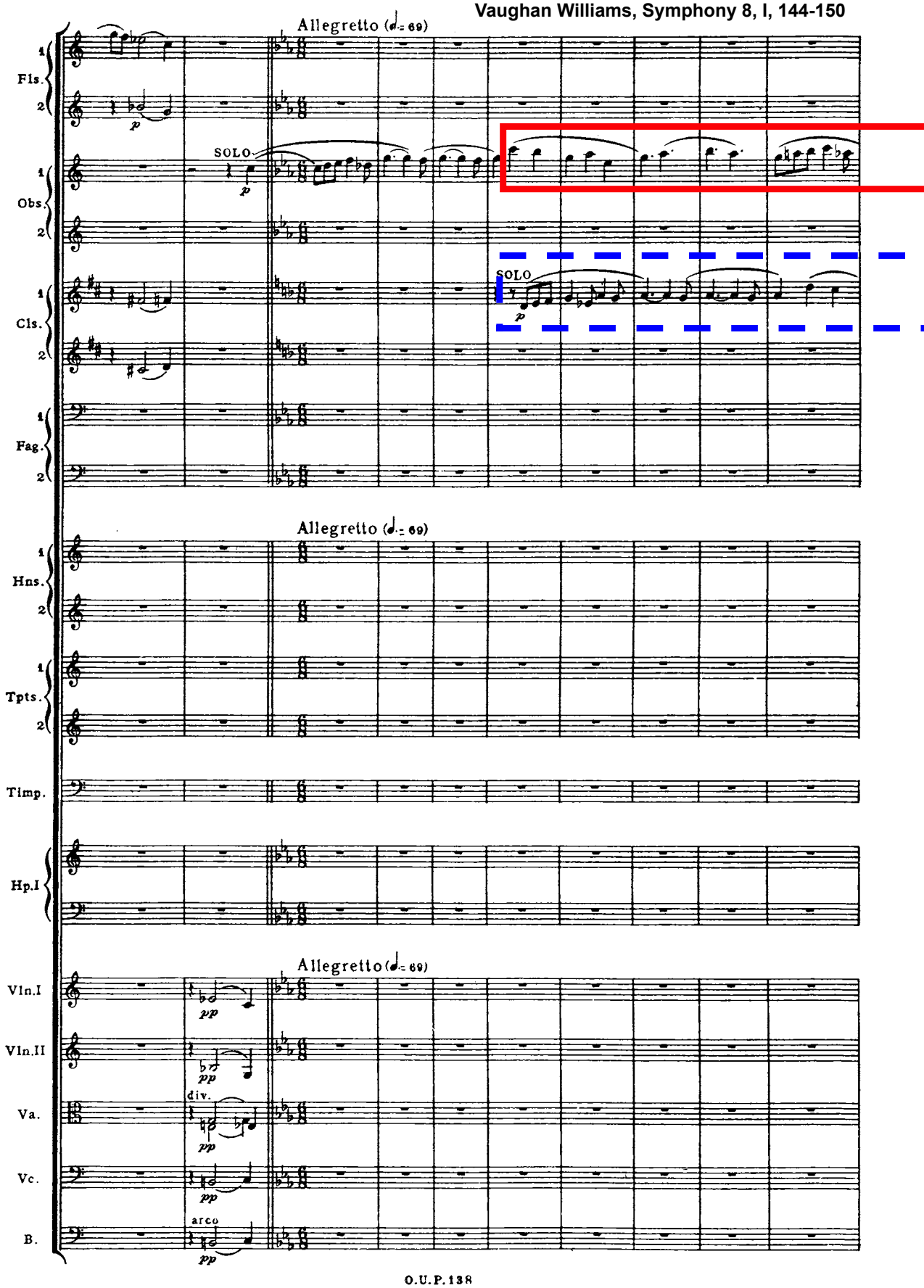
Smetana, The Bartered Bride, Overture, 31-35

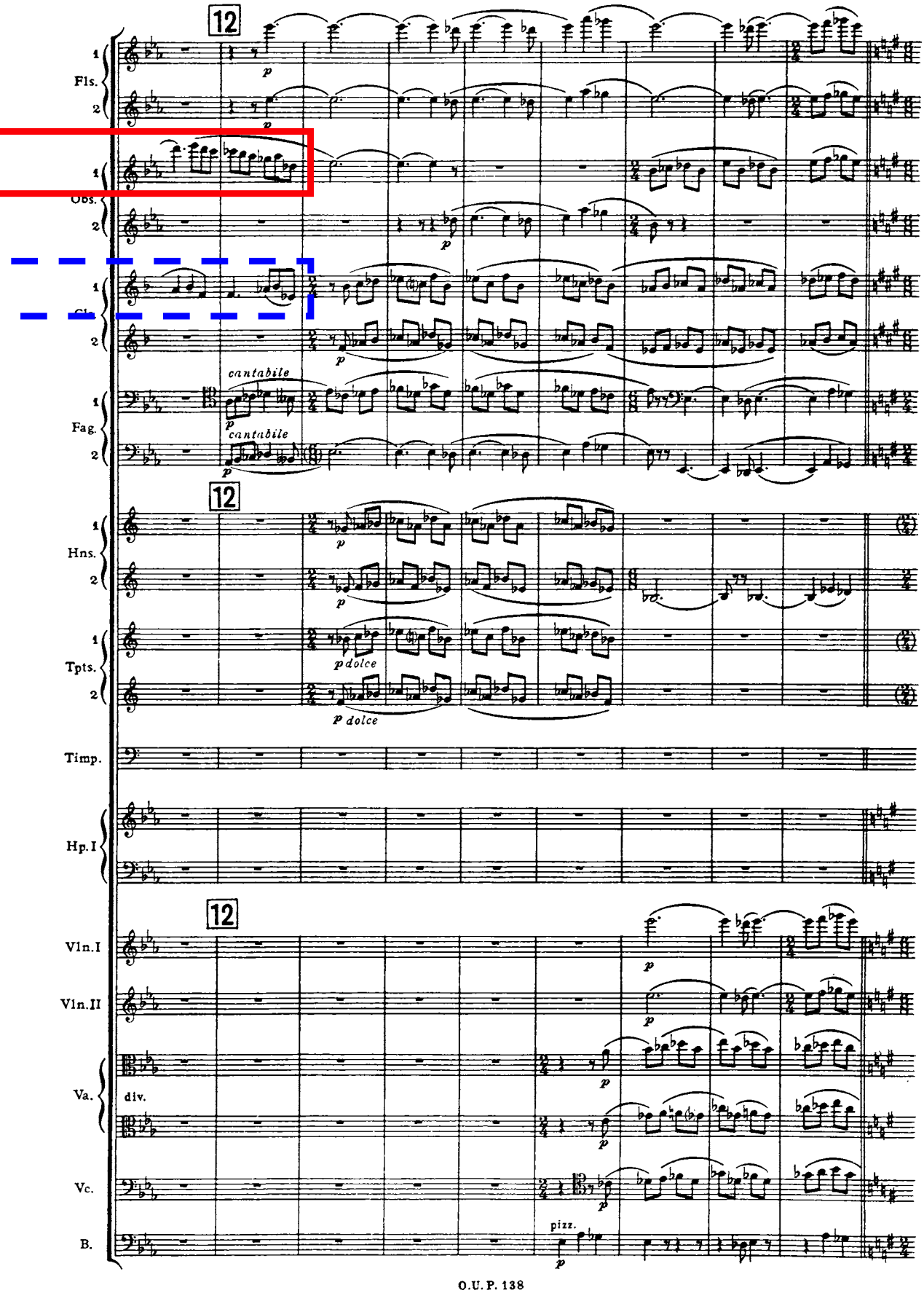



tranquillo
espr.
espr.
espr.
espr.
tranquillo
espr.
espr.
espr.
div.

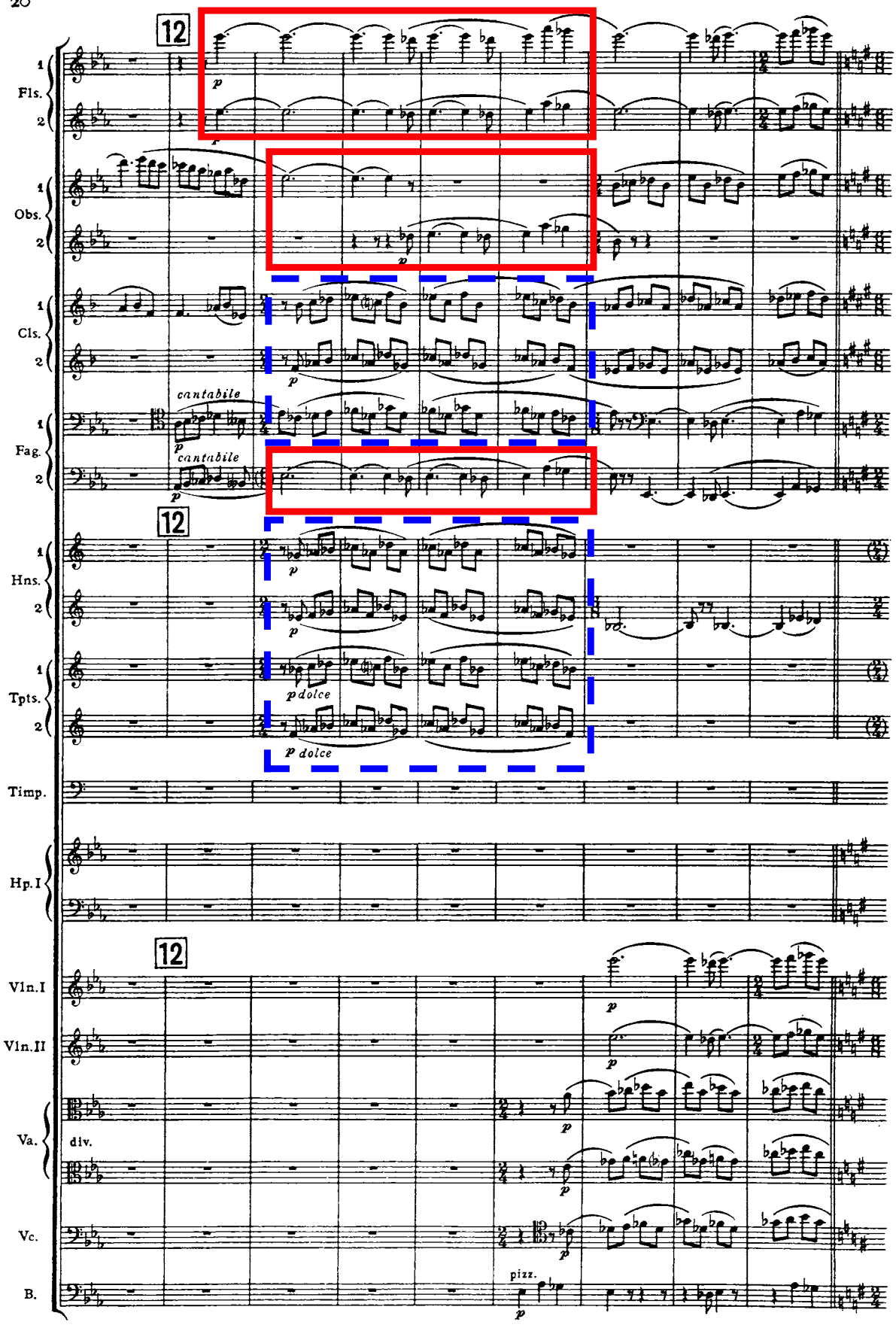

espr.
cresc.
p
pp
mf
f
div.

Vaughan Williams, Symphony 8, I, 144-150

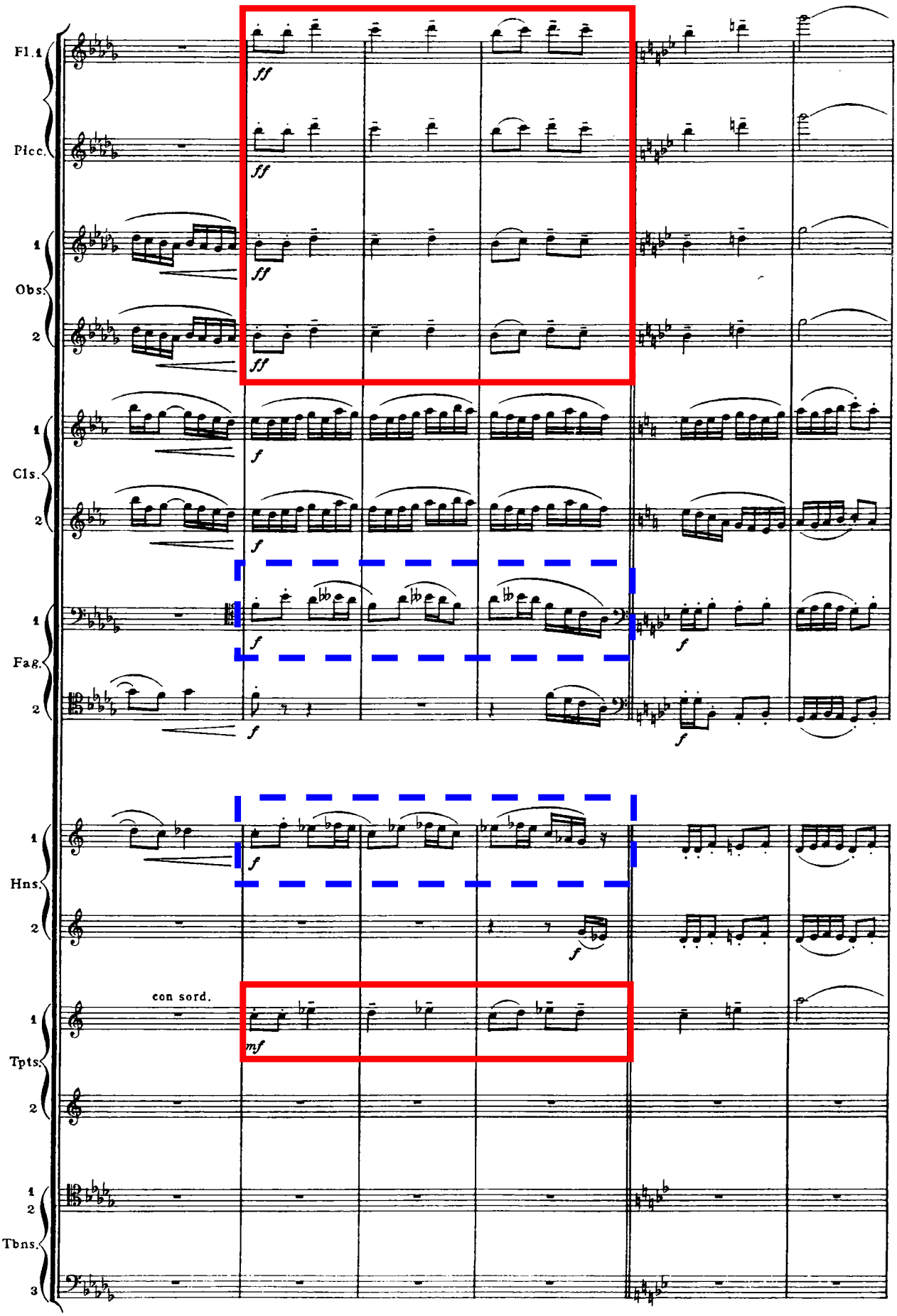



12
Fls.
Obs.
Cls.
Fag.
cantabile
cantabile
12
Hns.
Tpts.
p dolce
p dolce
Timp.
Hp.I
12
Vln.I
Vln.II
Va.
div.
Vc.
B.
pizz.

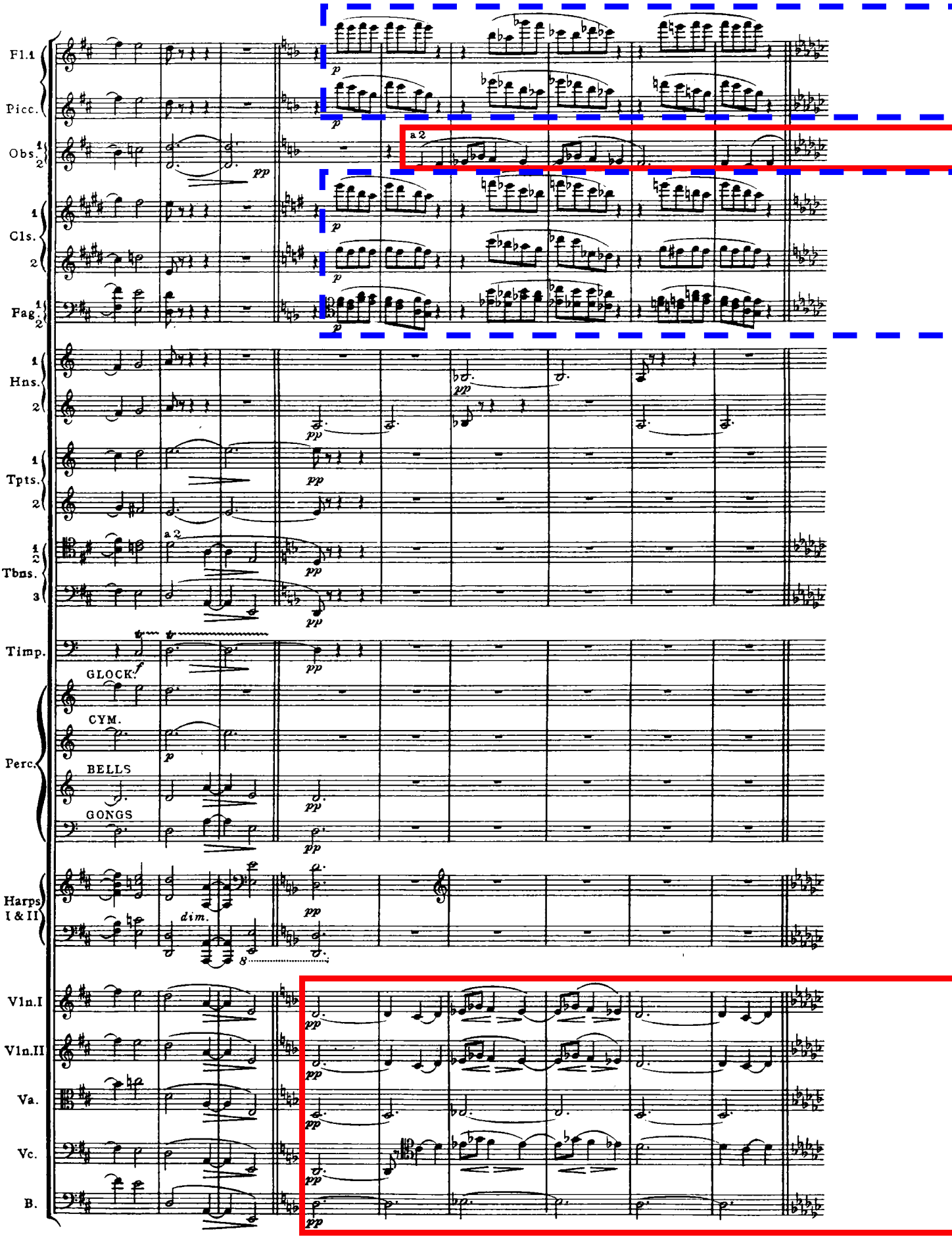
Vaughan Williams, Symphony 8, I, 150-154

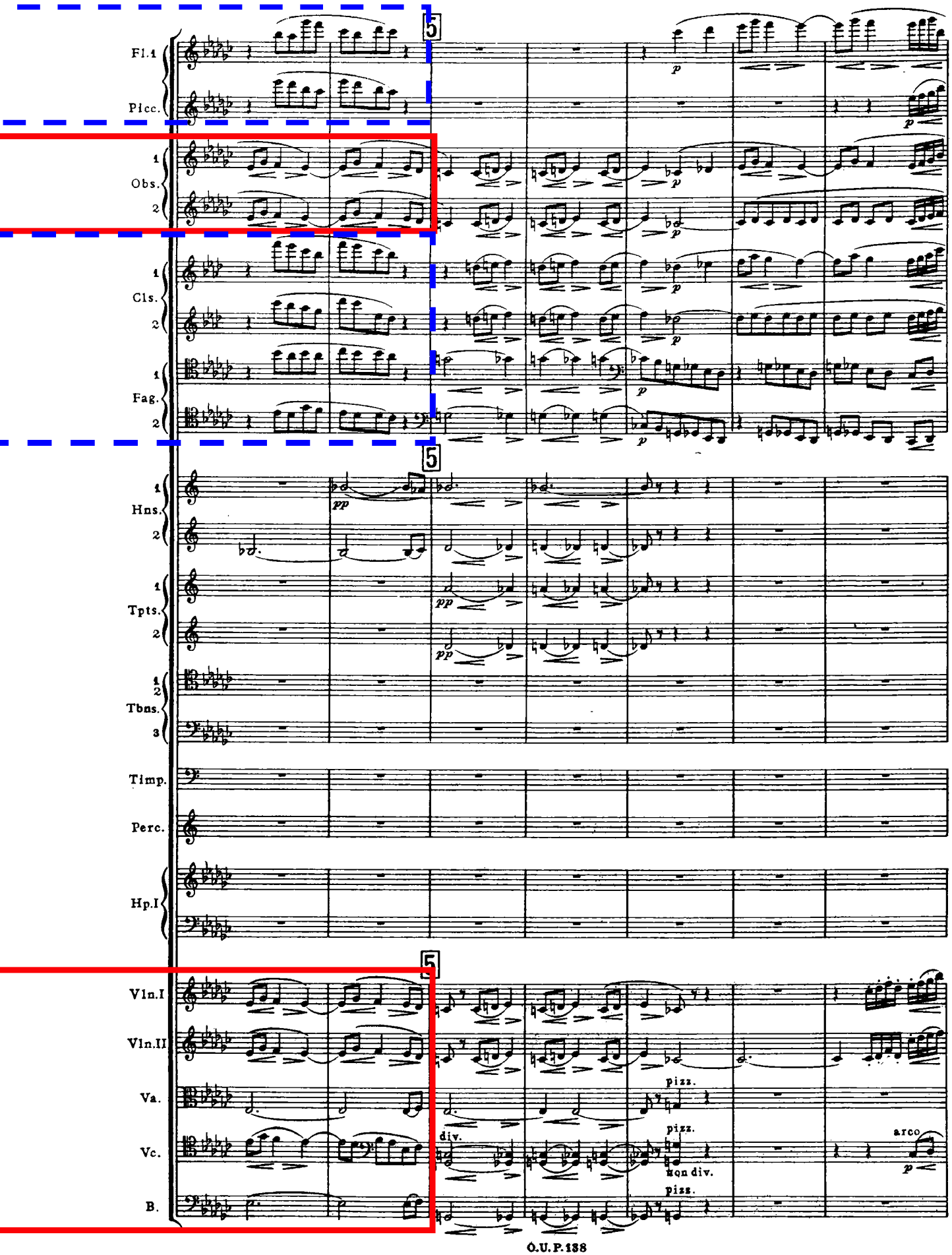


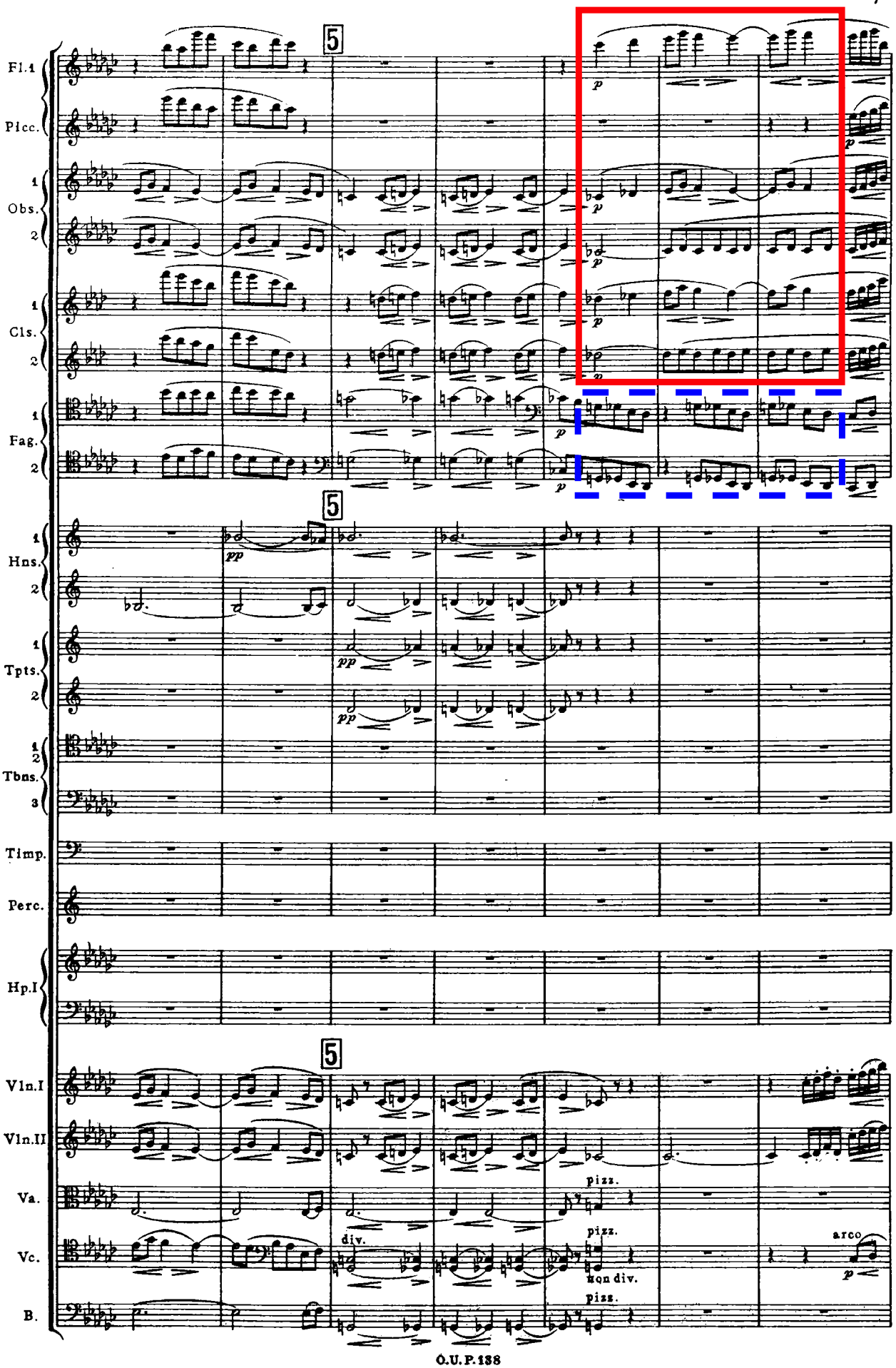
Vaughan Williams, Symphony 8, II, 100-102



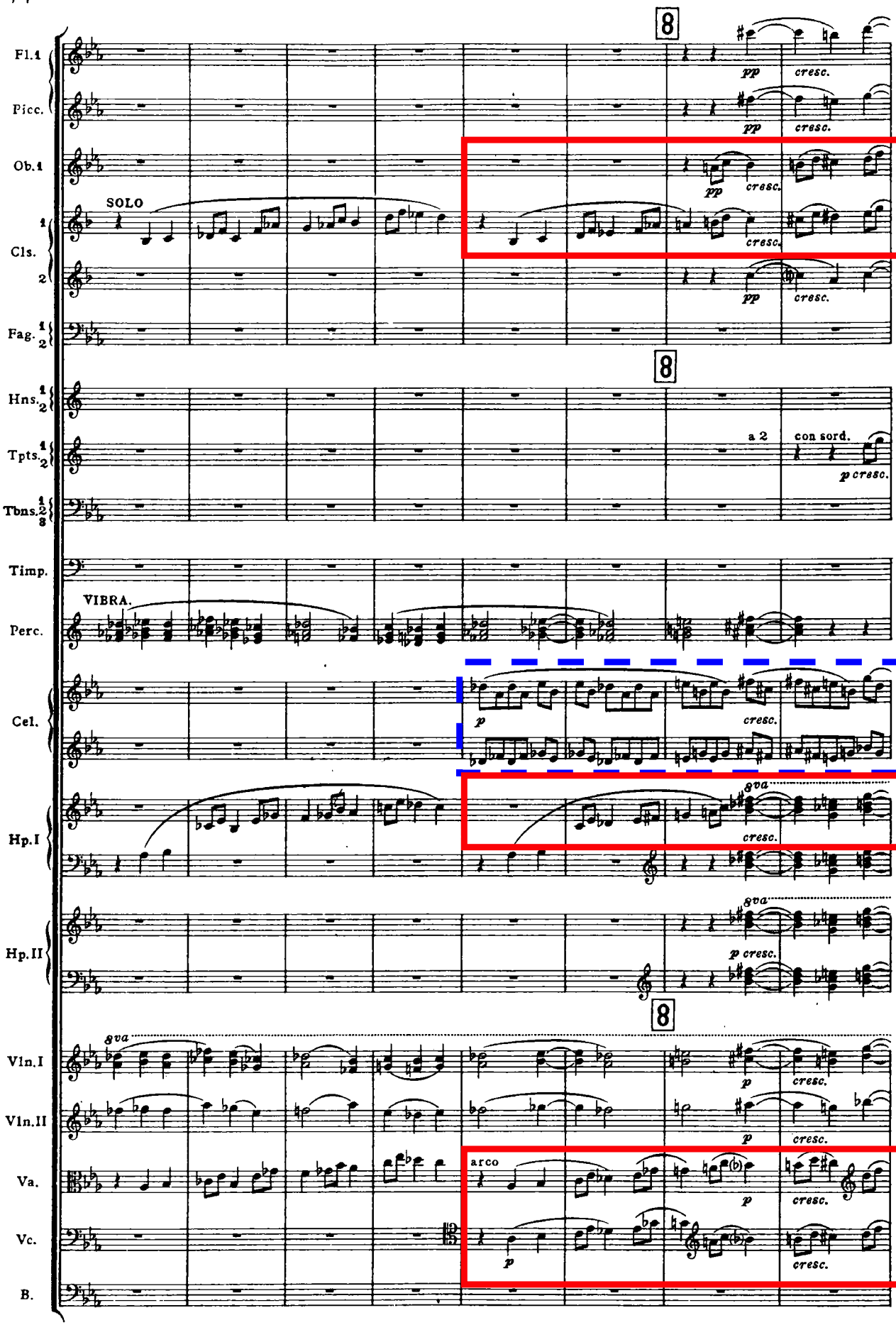
Vaughan Williams, Symphony 8, IV, 59-66

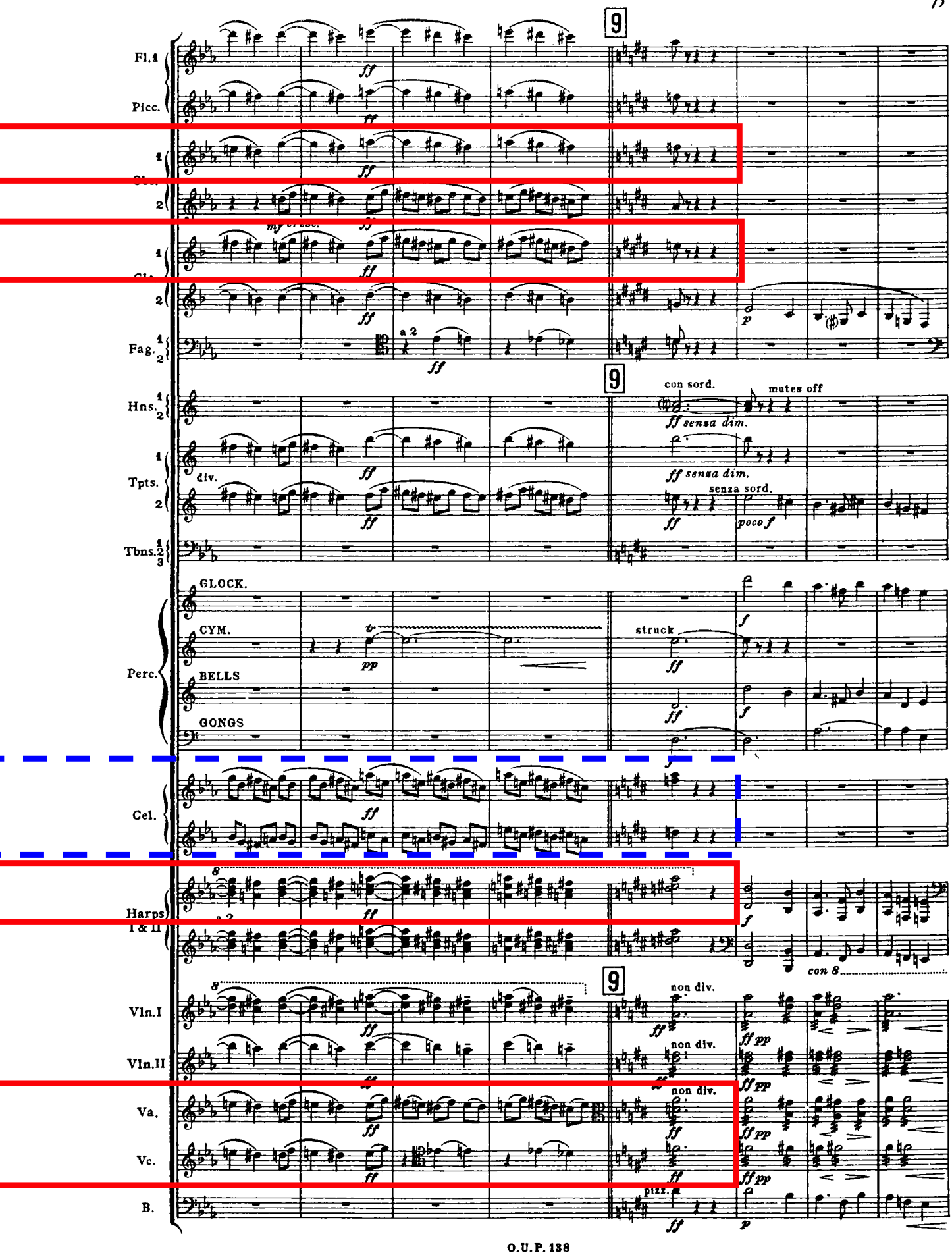


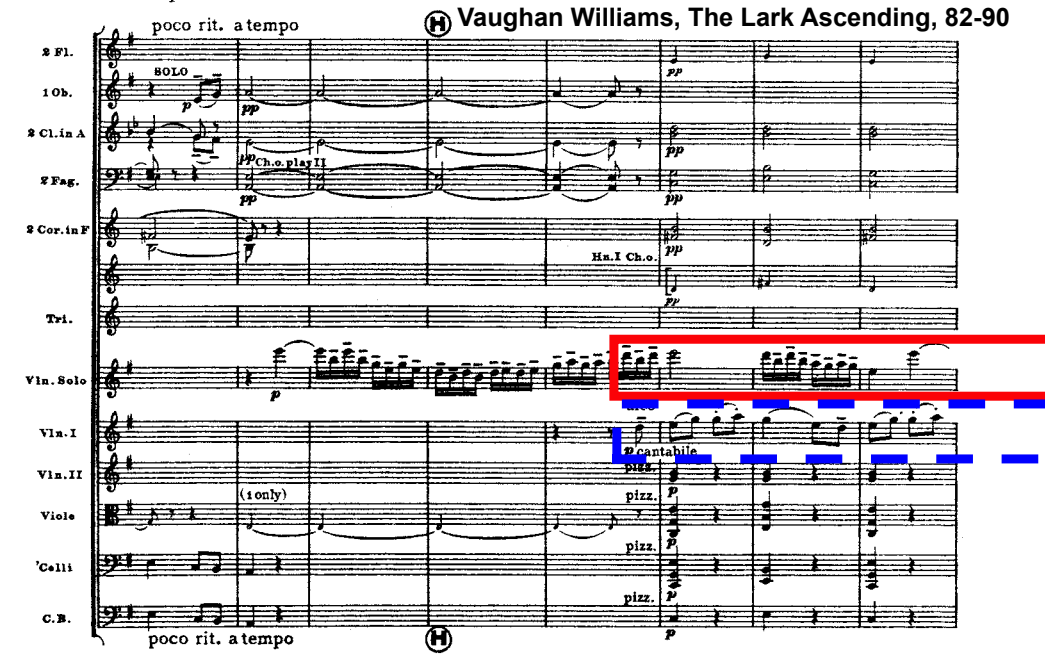

Fl.1
Picc.
1
Obs.
2
1
Cls.
2
1
Fag.
2
5
1
Hns.
2
1
Tpts.
2
1
2
Tbns.
3
Timp.
Perc.
Hp.I
5
Vln.I
Vln.II
Va.
Vc.
B.
pizz.
div.
pizz.
non div.
pizz.
arco


Fl.1
Picc.
1
Obs.
2
1
Cls.
2
1
Fag.
2
5
p
1
Hns.
2
pp
1
Tpts.
2
1
2
Tbns.
3
Timp.
Perc.
Hp.I
5
Vln.I
Vln.II
Va.
pizz.
Vc.
div.
pizz.
non div.
arco
B.
pizz.

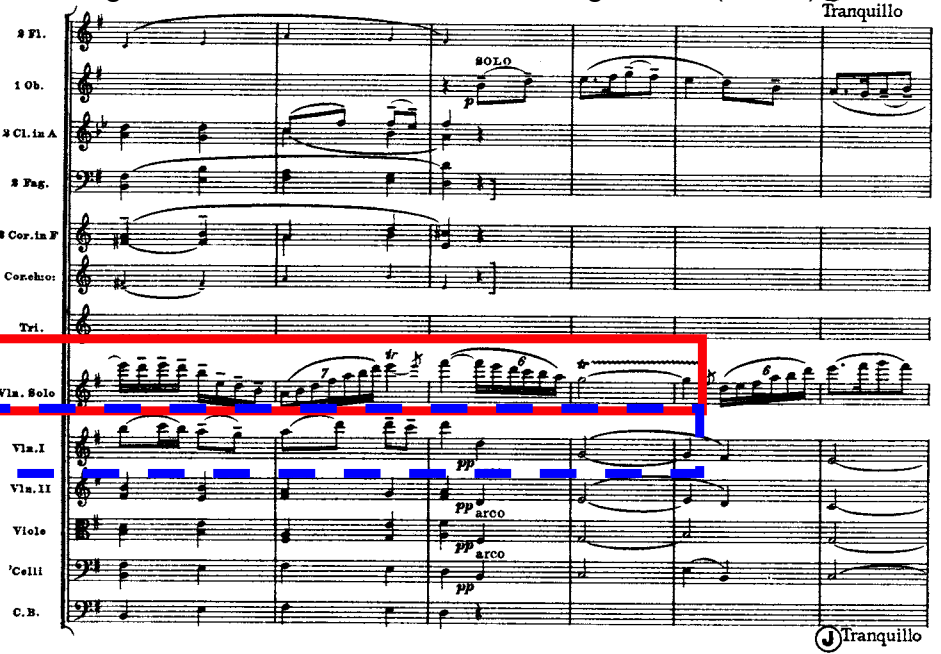
Vaughan Williams, Symphony 8, IV, 87-95

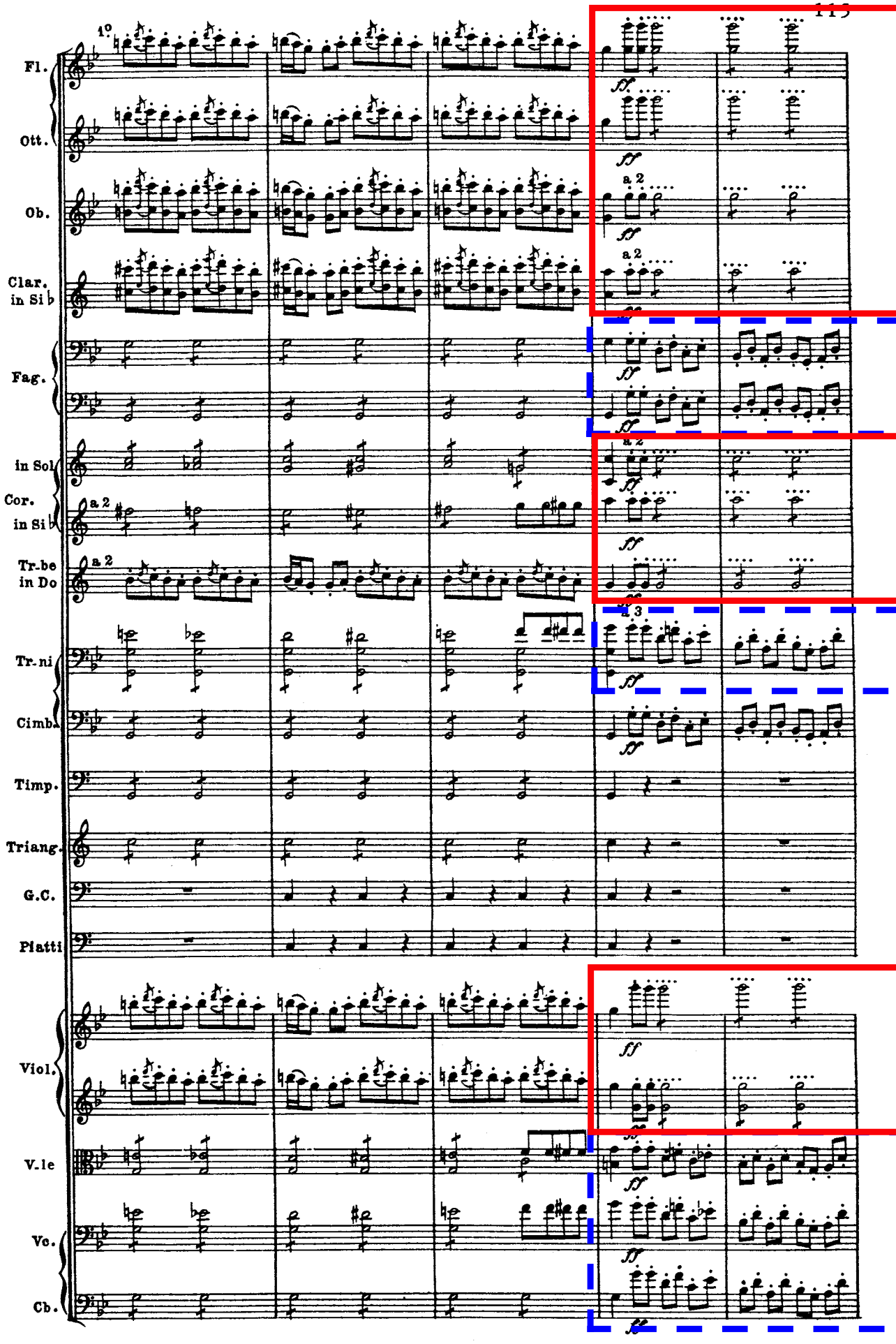


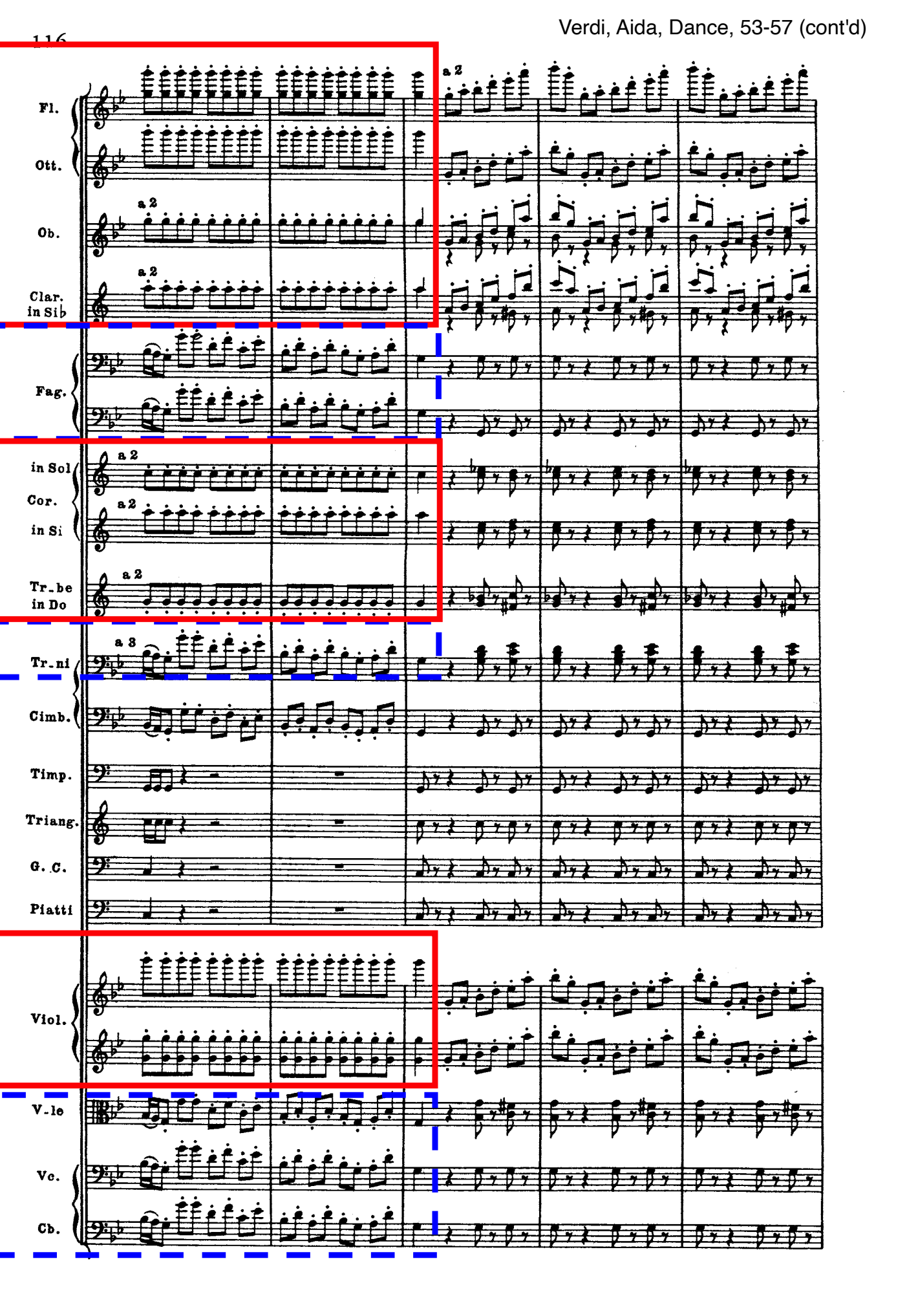

9
Fl.1
Picc.
Fag.
a 2
con sord.
mutes off
ff senza dim.
Hns.
Tpts.
div.
senza sord.
poco f
Tbns.
GLOCK.
CYM.
BELLS
GONGS
struck
Perc.
Cel.
Harps I & II
con 8
Vln.I
Vln.II
non div.
Va.
Vc.
B.
pizz.


poco rit. a tempo
H
Vaughan Williams, The Lark Ascending, 82-90
2 Fl.
1 Ob.
2 Cl. in A
2 Fag.
2 Cor. in F
Tri.
Vln. Solo
Vln. I
Vln. II
Viole
'Celli
C.B.
SOLO
Ch. o. play II
Hn. I Ch. o.
cantabile
pizz.
(1 only)
poco rit. a tempo

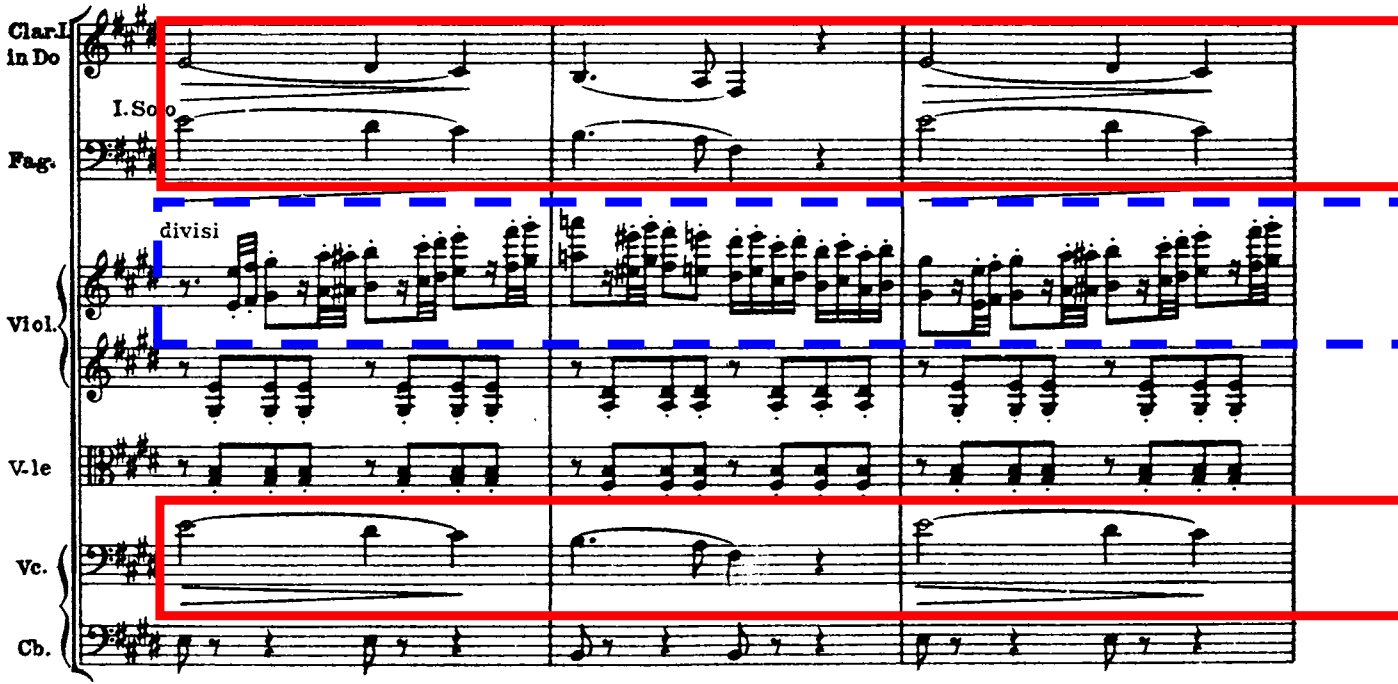
Vaughan Williams, The Lark Ascending, 82-90 (cont'd)



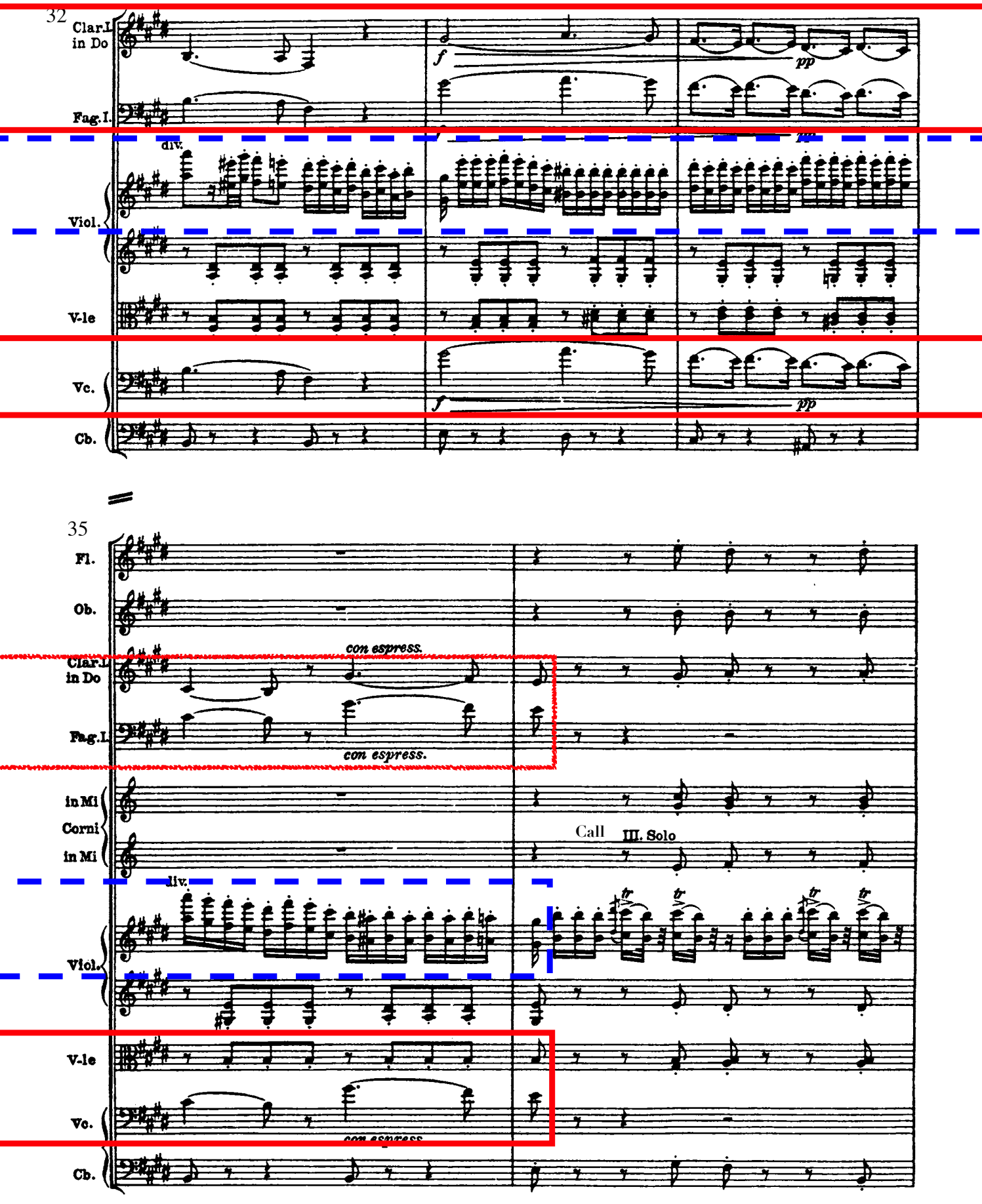

1°
Fl.
Ott.
Ob.
Clar. in Si♭
Fag.
in Sol
Cor. in Si♭
Tr.be in Do
Tr.ni
Cimb.
Timp.
Triang.
G.C.
Piatti
Viol.
V.le
Vc.
Cb.
a 2
a 3
ff
fff

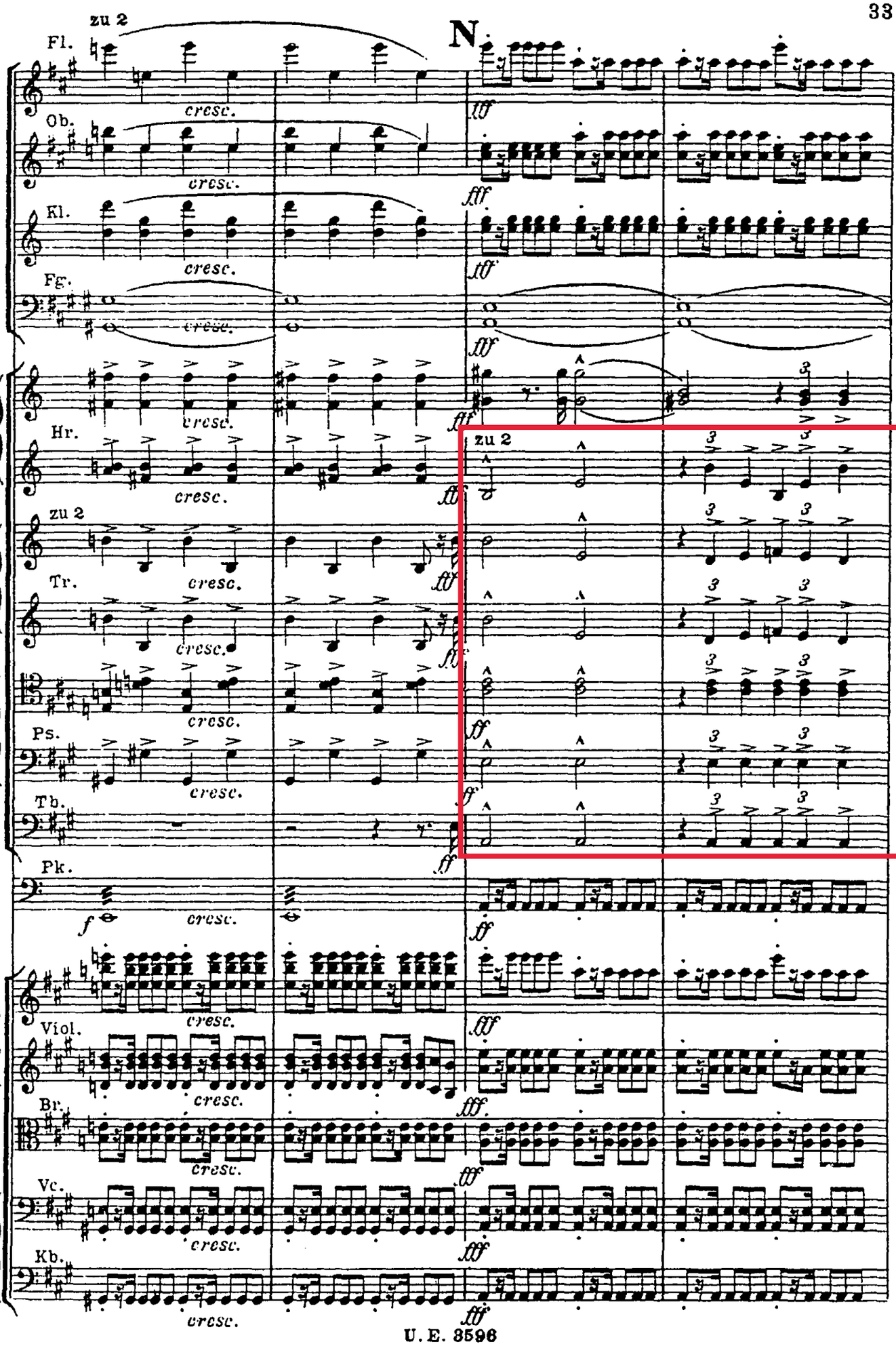

116
Fl.
Ott.
Ob.
Clar. in Sib
Fag.
in Sol
Cor.
in Si
Tr.be in Do
Tr.ni
Cimb.
Timp.
Triang.
G.C.
Piatti
Viol.
V.le
Vc.
Cb.
a 2
a 3

Verdi, La Traviata, Prelude, 29-36

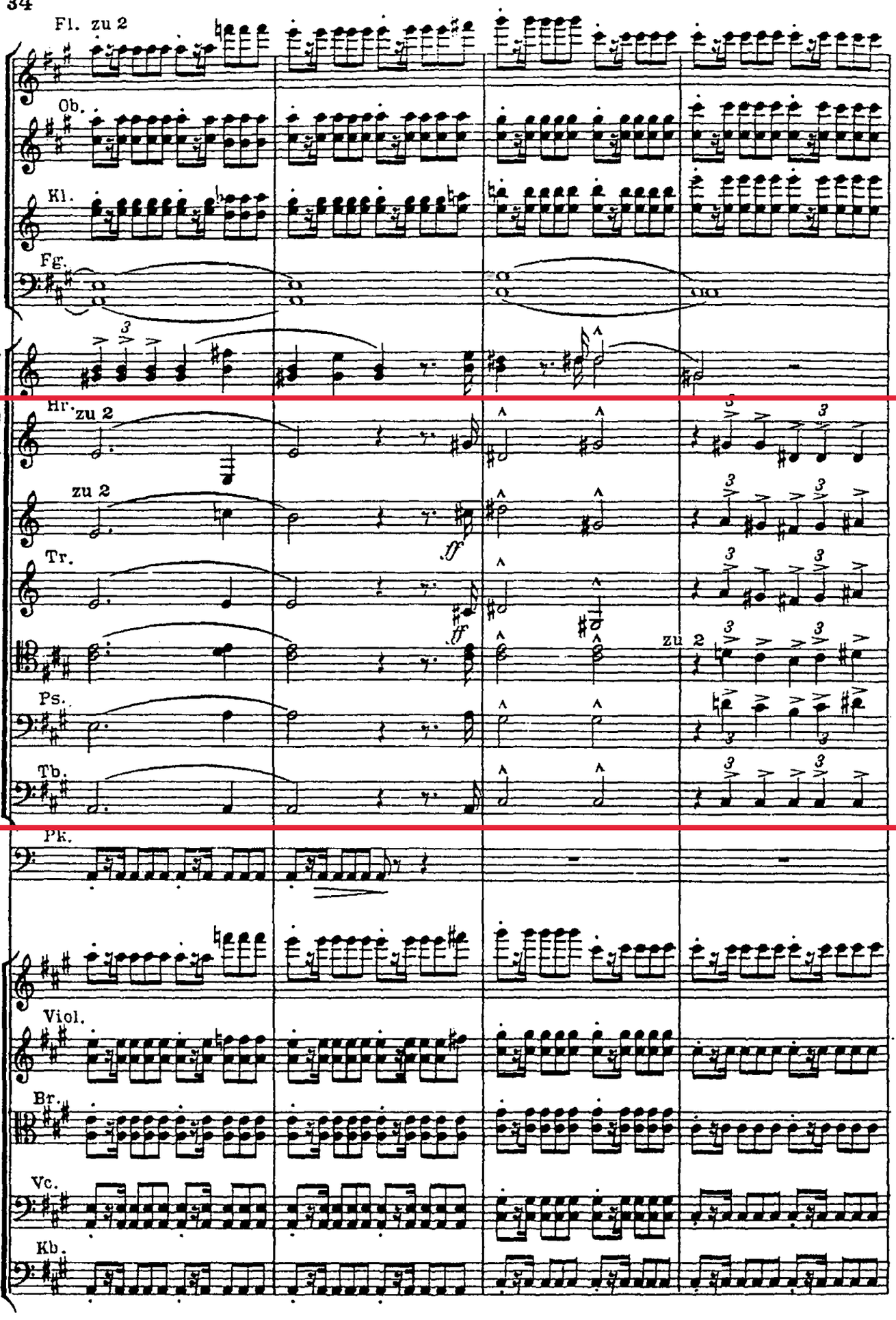


Verdi, La Traviata, Prelude, 29-36 (cont'd)

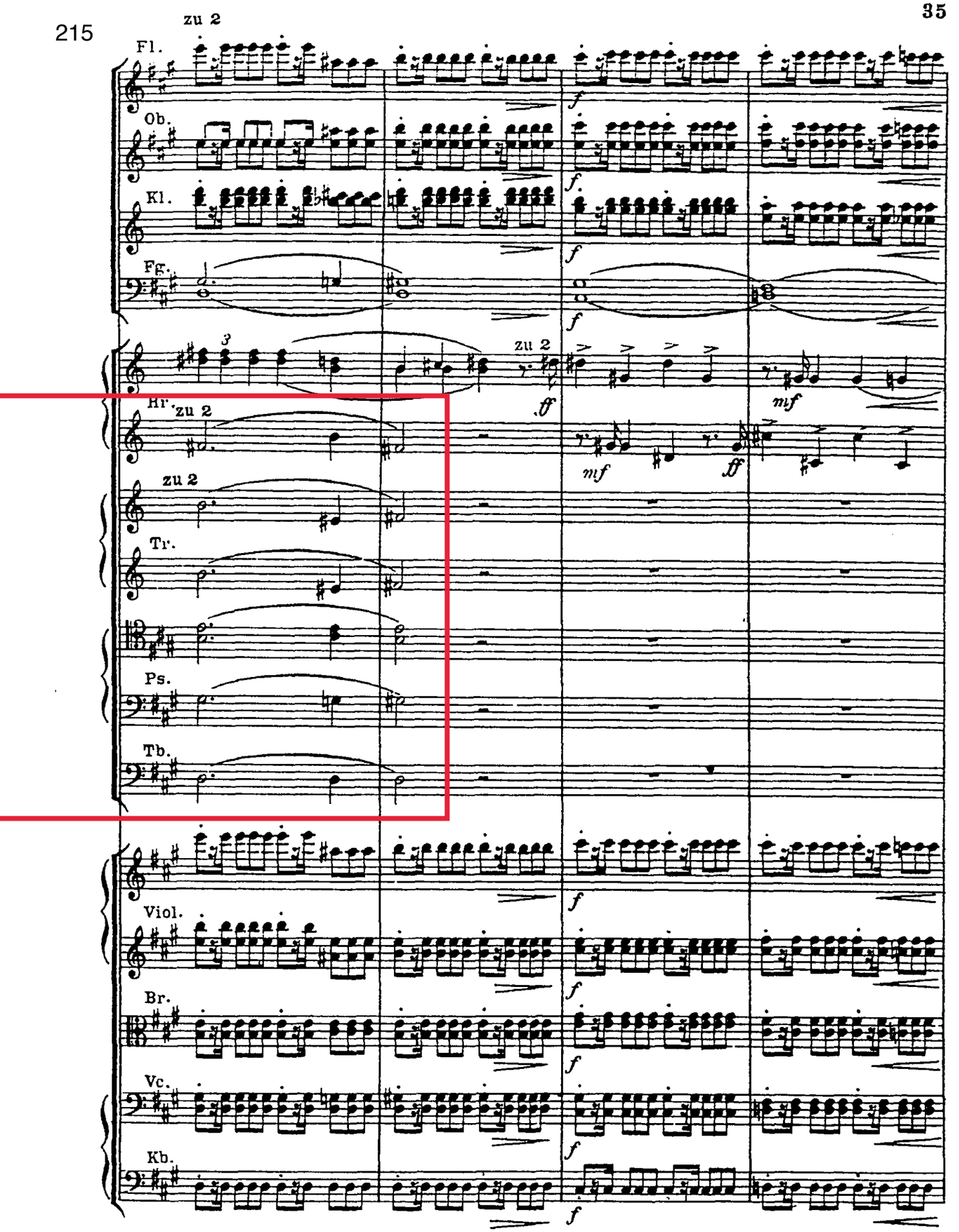



N.
zu 2
Fl.
Ob.
Kl.
Fg.
Hr.
Tr.
Ps.
Tb.
Pk.
Viol.
Br.
Vc.
Kb.
cresc.
fff
ff
f

211



215



61

Fl.

Htb

Cl.

Bons

poco sfz

poco sfz

più f

Unis

più f

67

1º Solo

en retenant - - - 1er Mouvt (♩= 66)

Fl.

à 2

Htb

Cl.

Bons

1er et 2e Cors

3e Cor

4e Cor

Tromp.

Timb.

Soli

Soli

pizz.

en retenant - - - 1er Mouvt

73

à 2

Fl.

Htb

Cl.

Bons

Cors

Tromp.

Timb.

Div.

arco

79

Cors

Tromp.

pizz.

Unis.

Div.

Debussy, La Mer , I, 71-72

70

8

G^des Fl.

Picc.

H^tb

Cor A.

Cl. en Si♭

B^ons

2° et 3°

1° et 2°

p cresc. marqué

mf

Cors 1re et 2e

Cors 3e et 4e

Tromp. en Fa

Sourdines

Sourdines à 3

p soutenu et en déhors

1re et 2e Tromb.

3e Tromb. et Tuba

Sourdines aux 1er 2e et 3e Trombones

pp

Sourdine 3°

Tuba

1re et 2de Harpes

sfz p

8

V^ns I

V^ns II

Altos

V^elles

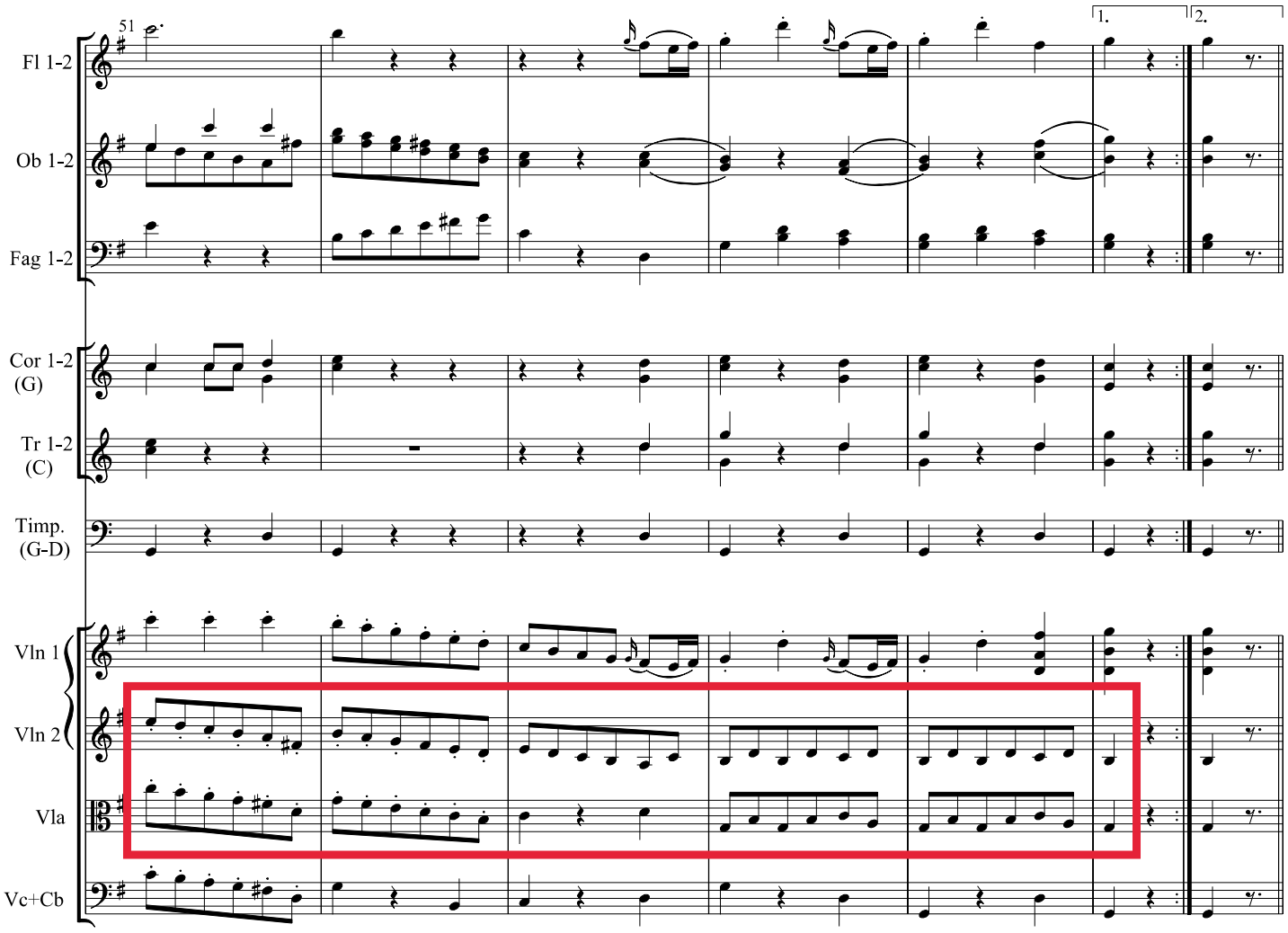
Cb.

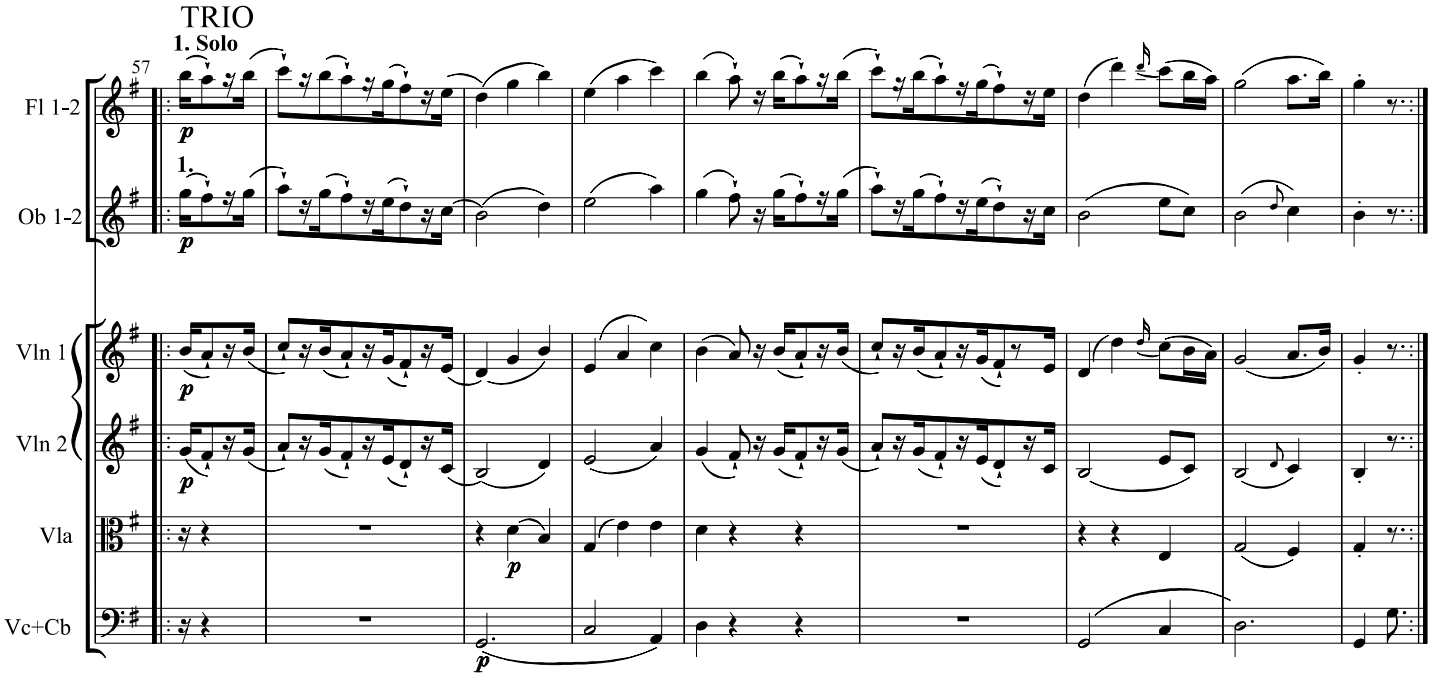
pp cresc.

unis.

arco

più pp





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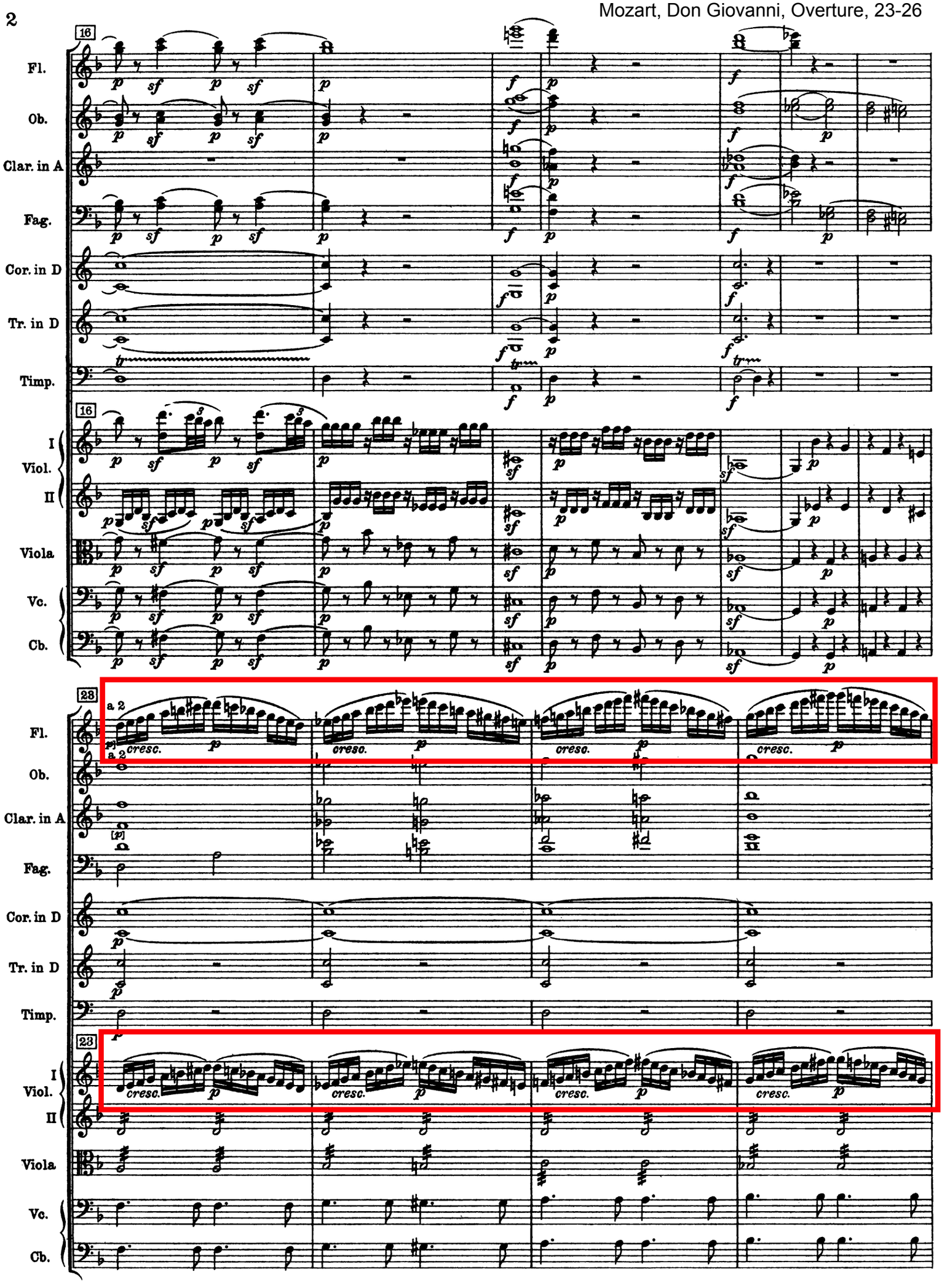

16
Fl.
Ob.
Clar. in A
Fag.
Cor. in D
Tr. in D
Timp.
I
Viol.
II
Viola
Vc.
Cb.
23
a 2
cresc.

12

59

13 Vivo

Meno mosso

Fl. 1 2

Fl. 3

Prenez la Petite Flute

Htb 1 2

C.A.

Prenez le Hautbois

Cl. 1 2

Cl.B.

Bons 1 2

C.Bon

Cors 1 2

Cors 3 4

Timb.

Gr.C

Harpe

Solb

Réb

8a

Vons

Altos

Vlles

Unis

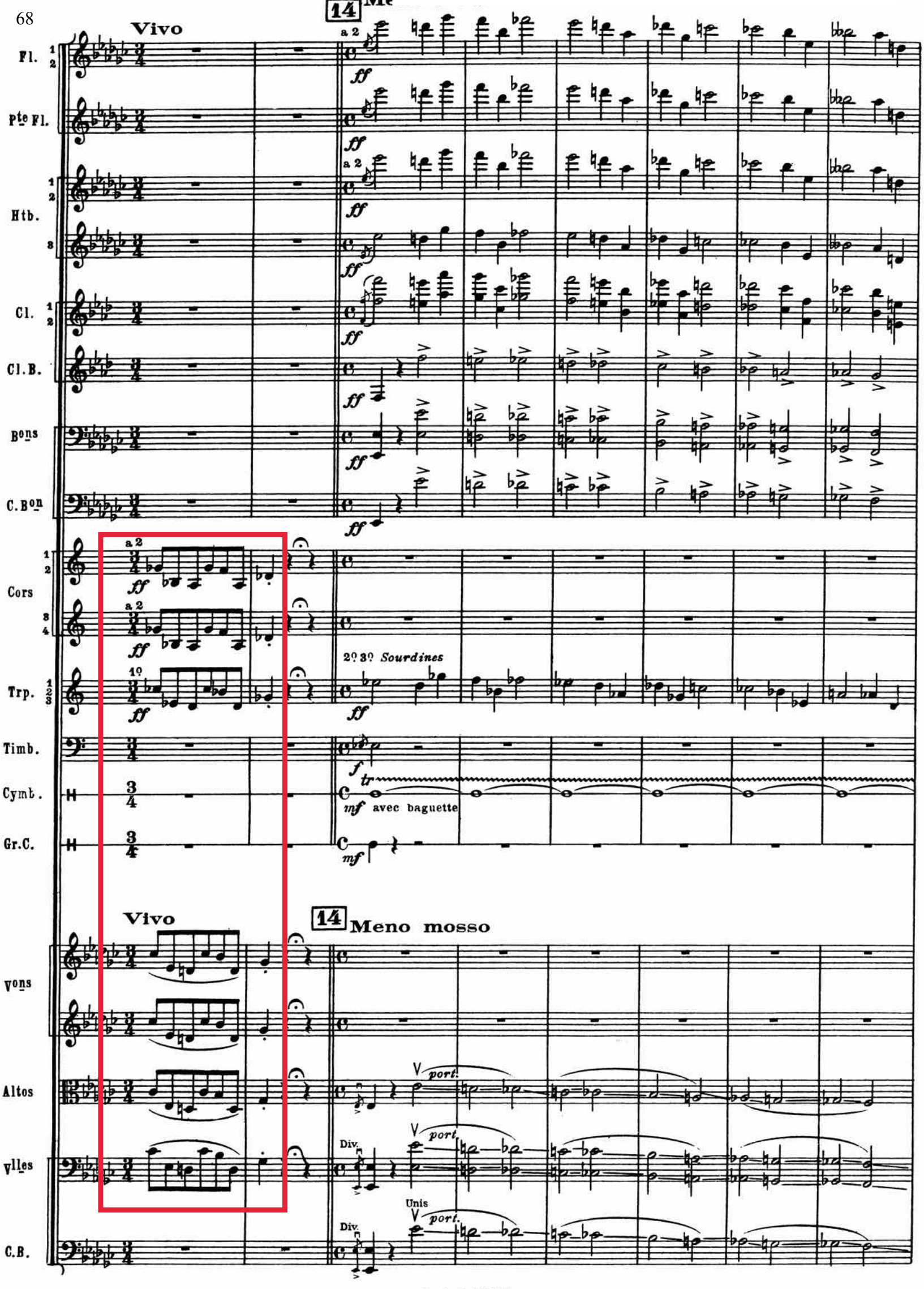
C.B.

a 2

ff

mf

Mussorgsky (Orch. Ravel), Pictures at an Exhibition, II, 68-69



6. Samuel Goldenberg und Schmuyle.

56

Andante

2 HAUTBOIS

COR ANGLAIS

2 CLARINETTES EN LA

CLARINETTE BASSE EN LA

2 BASSONS

CONTREBASSON

4 CORS CHROM. EN FA

2 TROMPETTES EN UT

56

Andante

(tout sur la 4e Corde)

1ers VIOLONS

2ds VIOLONS

ALTOS

VIOLONCELLES

CONTREBASSES

Div. Unis Div. Unis Div. Unis Div.

3

57

C.A.

Cl.

Cl.B.

Bons

57

Vons

Altos

Vlles

C.B.

Unis Div.

Schubert, Symphony9, IV, 543-558

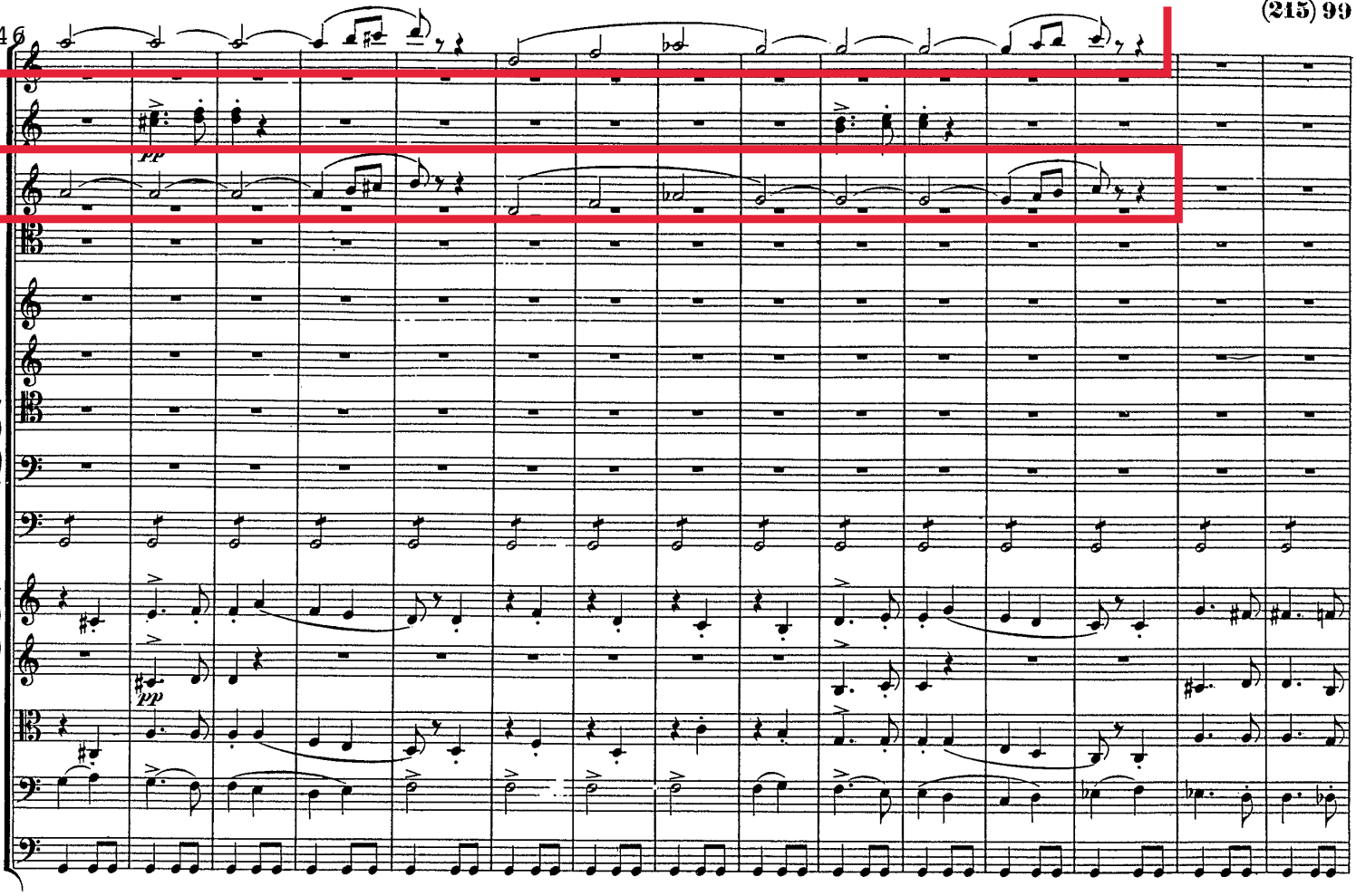
510

G

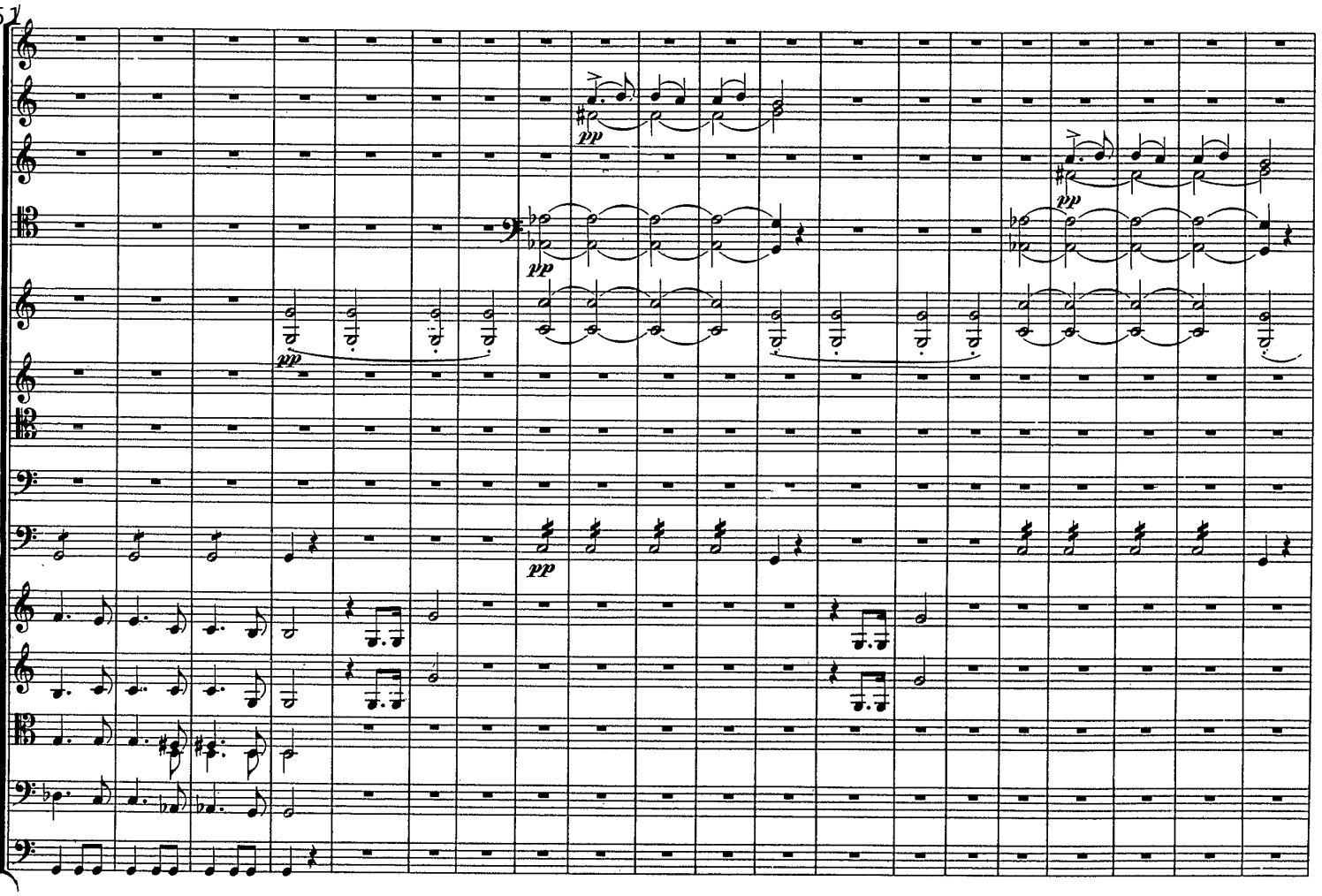
a 2.

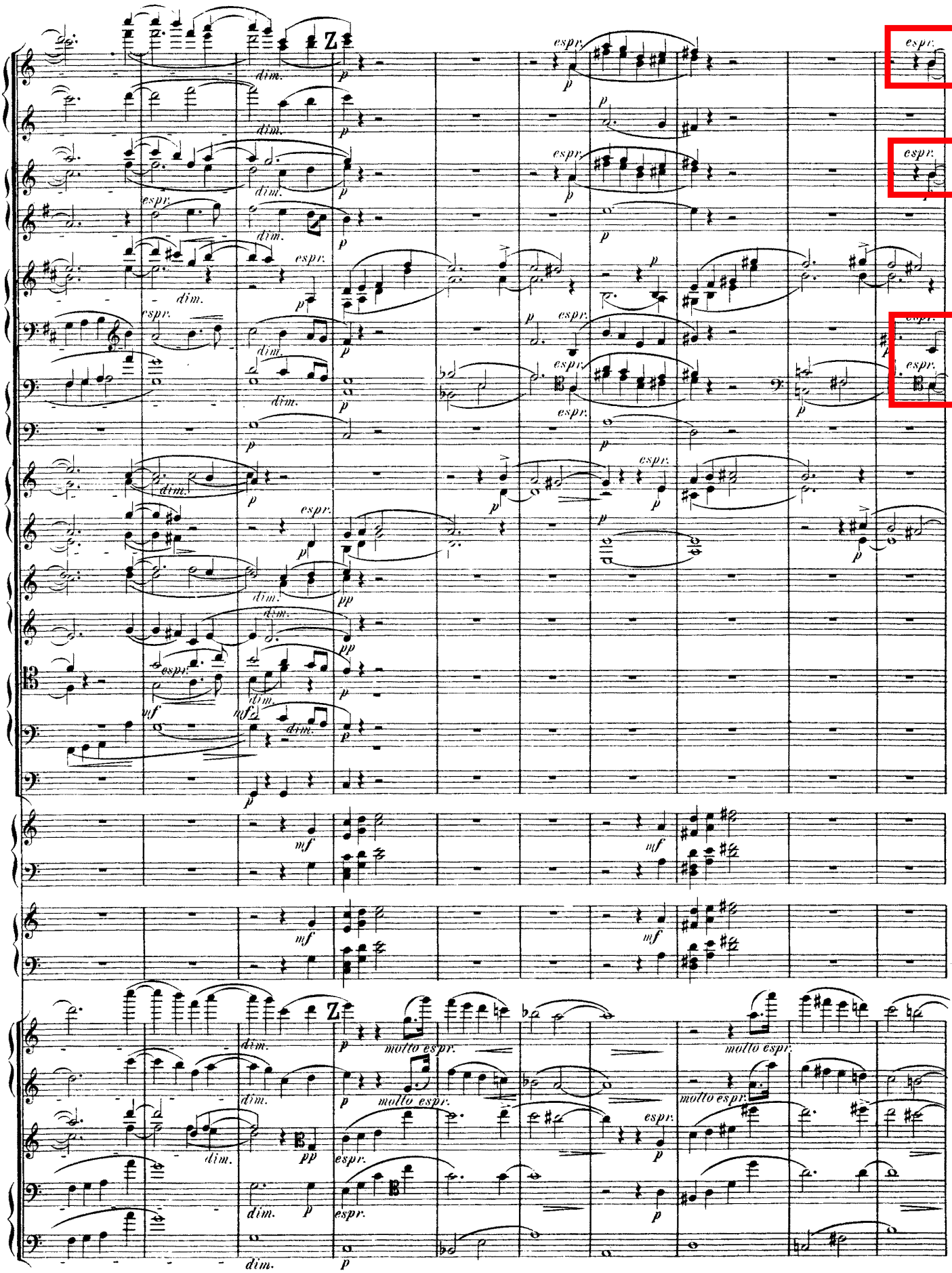
528

546

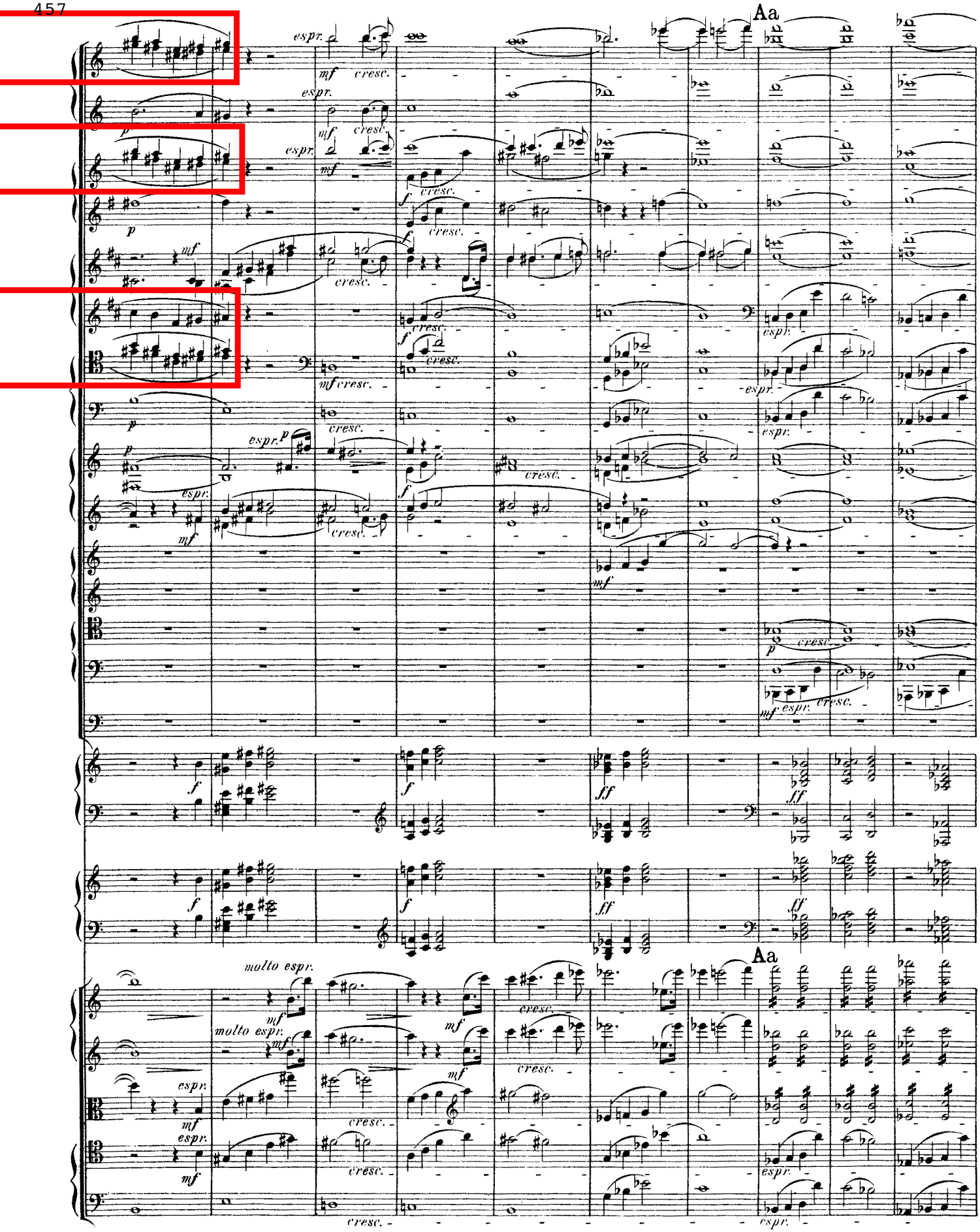


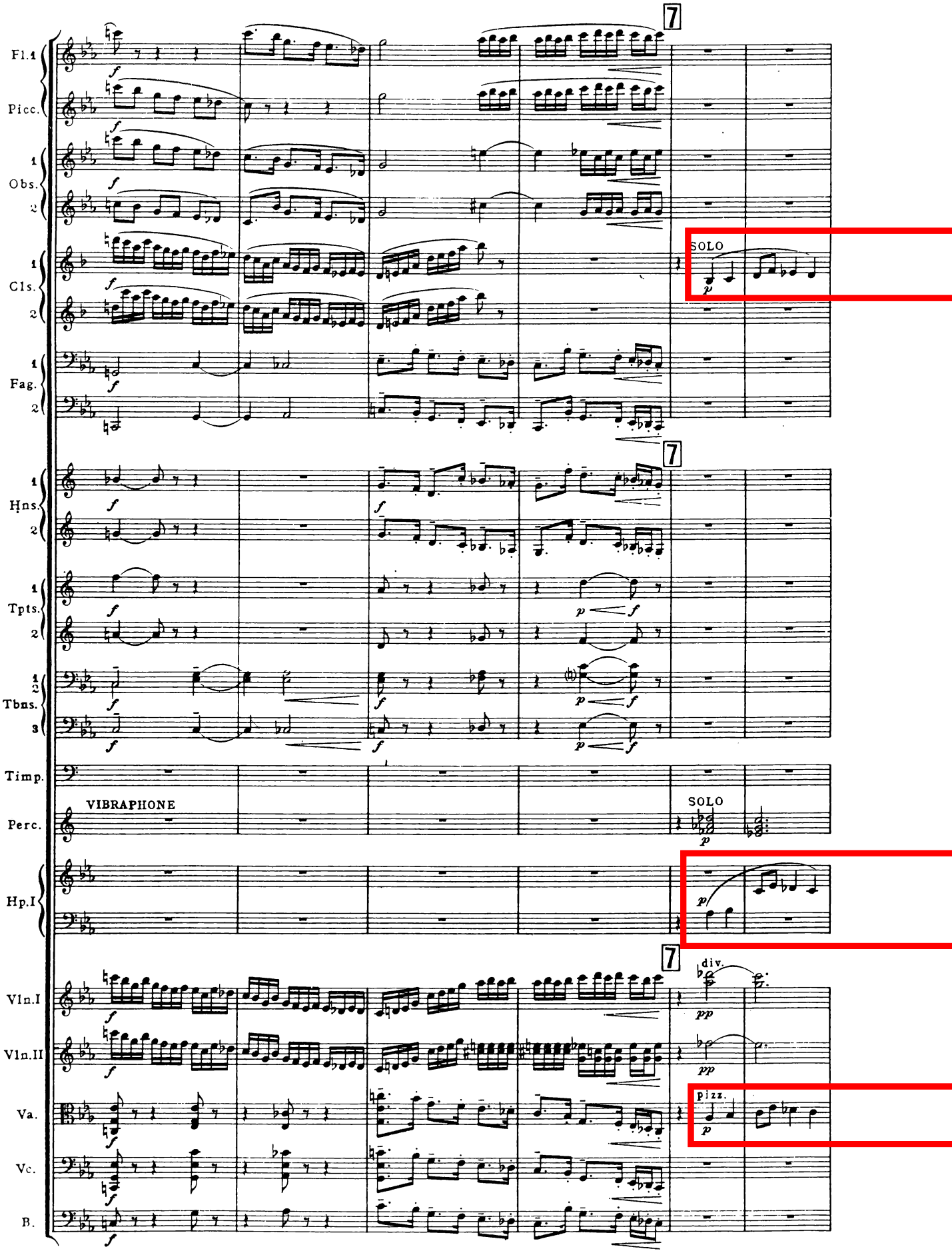
561

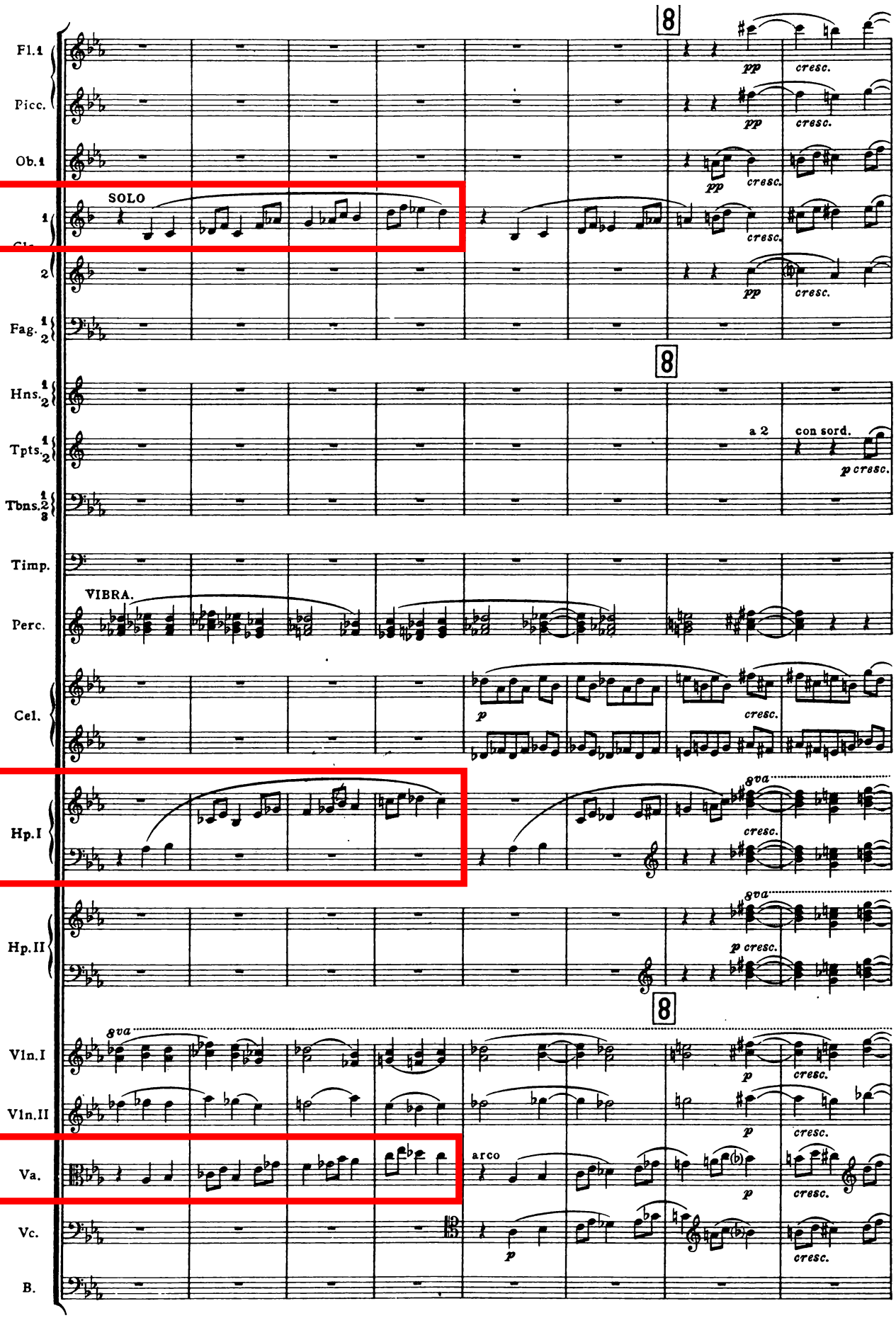


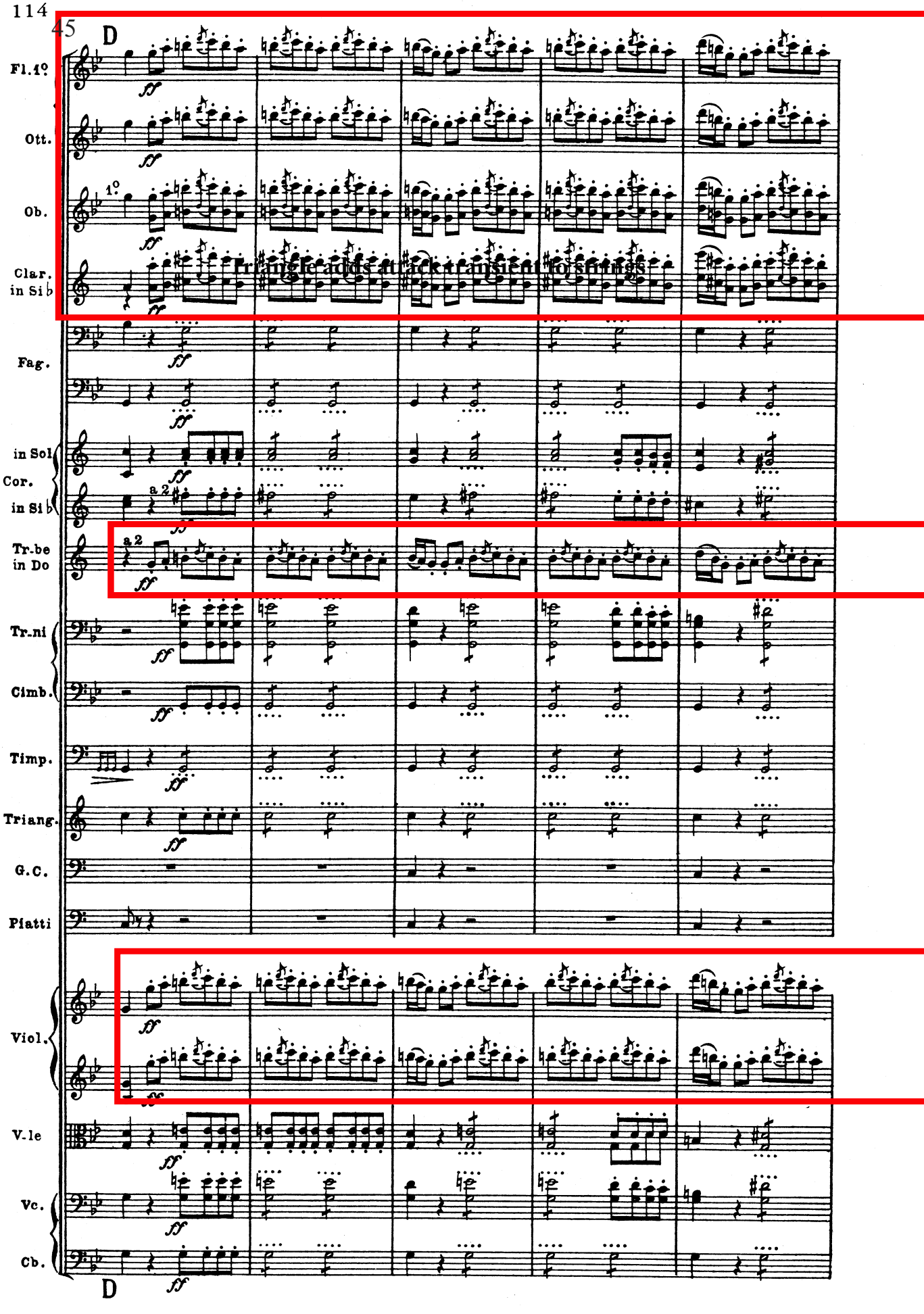

Z
dim.
p
espr.
mf
pp
molto espr.

457

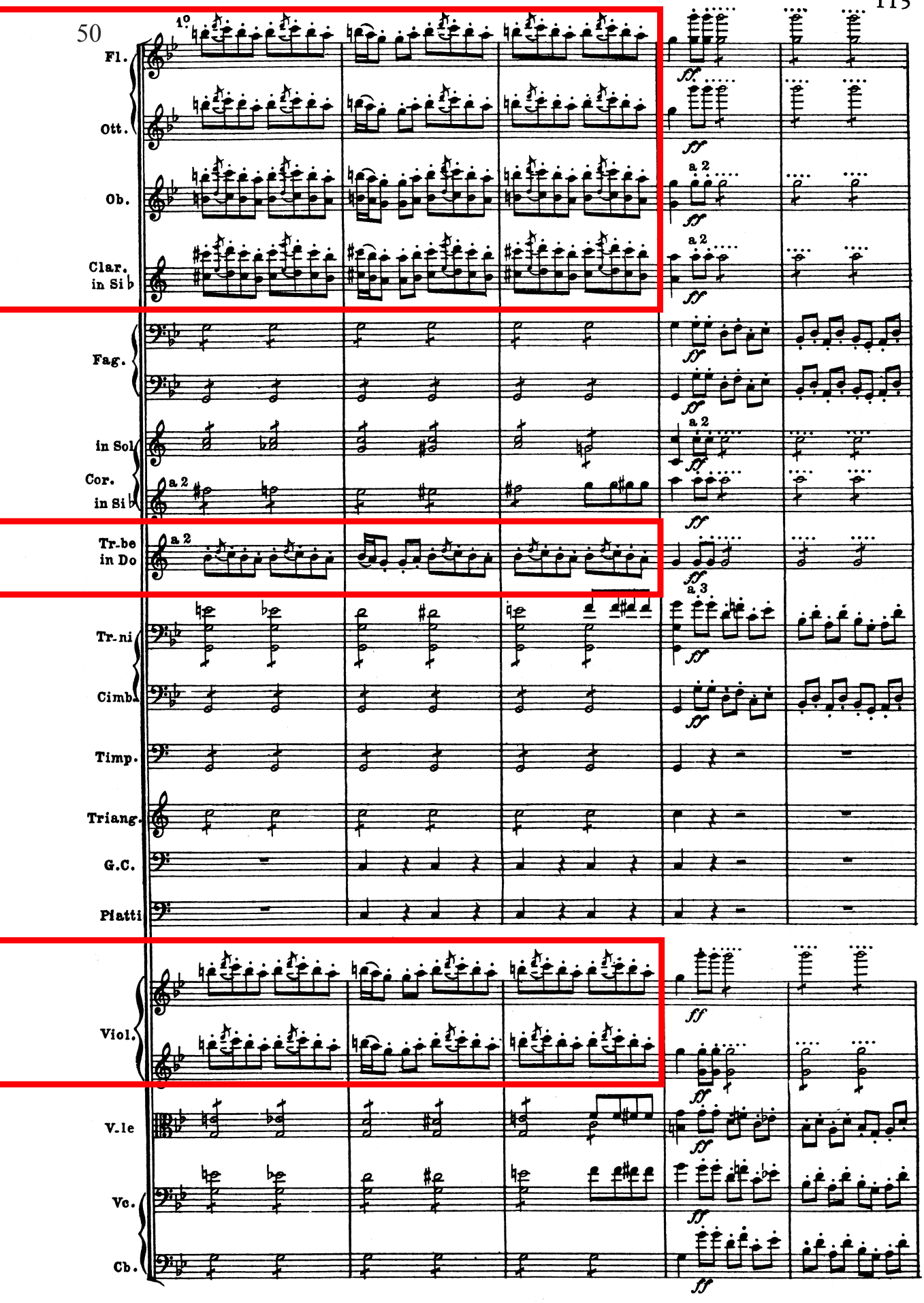



Fl.1
Picc.
1
Obs.
2
1
Cls.
2
1
Fag.
2
7
SOLO
1
Hns.
2
1
Tpts.
2
1
2
Tbns.
3
Timp.
Perc.
VIBRAPHONE
SOLO
Hp.I
7
div.
Vln.I
Vln.II
Va.
pizz.
Vc.
B.


Fl.1
Picc.
Ob.1
Cl. 1
2
Fag. 1 2
Hns. 1 2
Tpts. 1 2
Tbns. 1 2 3
Timp.
Perc.
Cel.
Hp.I
Hp.II
Vln.I
Vln.II
Va.
Vc.
B.
8
SOLO
pp
cresc.
a 2
con sord.
p cresc.
VIBRA.
p
8va
arco


45
D
Fl.1º
Ott.
Ob.
Clar. in Si♭
Triangle adds attack transient to strings
Fag.
in Sol Cor. in Si♭
Tr.be in Do
Tr.ni
Cimb.
Timp.
Triang.
G.C.
Piatti
Viol.
V.le
Vc.
Cb.
D

50


1°
Fl.
Ott.
Ob.
Clar. in Si b
Fag.
in Sol
Cor. in Si b
a 2
Tr.be in Do
Tr.ni
Cimb.
Timp.
Triang.
G.C.
Piatti
Viol.
V.le
Vc.
Cb.
ff
fff
a 2
a 3