

Haris Sophocleous

Metabolos

For String Quartet

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Symbols



= **Raised or lowered accidentals.** Most of the notes are raised or lowered by a quarter-tone (- / +50 cents), some have more precise tuning (for example -23, +49 cents). Try to be as humanly precise as possible. The more precise, the more fusion is achieved of harmonic partials into single timbral sonorities.



= **Circular bowing.** Alternate between *sul pont* and *sul tasto*.



= **Scratch tone**



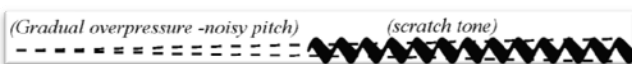
= **Scratch tone harmonic**



= **Left hand fingernail pizz.** Sometimes it is asked to play as close to the nut as possible to enhance higher harmonics. Other times a two finger left hand pizz (roll) is asked for.



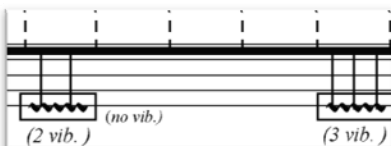
= **Cue players.** Violin I is responsible for cueing the rest of the players. Cues happen at the beginning of each time cell and the beginning and ending of rest periods.



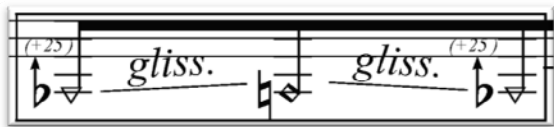
= Gradual overpressure into scratch tone



= **Prolonged sound**



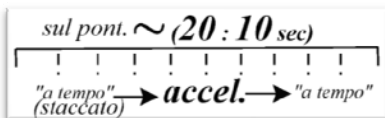
= The composition is performed with **no vibrato throughout**. The player only plays vibrato when indicated by a tremolo line in a box (vibrato beats per second are given in parenthesis).



= A **triangle harmonic** is a natural or microtonal natural harmonic which is not one of the conventional whole number ratio harmonics. It is very unreliable and it produces no stable resultant pitch (a noise-like texture is the result with occasional indeterminate higher partials).

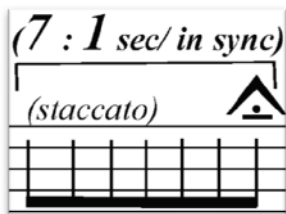


= **Fingered tremolo**. The fingers alternate between a stopped note or an open string and a harmonic node on the same string. Feathered beaming means that the speed of the tremolo is gradually shifting (faster or slower). Due to the nature of this effect the resultant pitch of the harmonic might not be heard clearly.



= **Notes in squares** indicate that the players must randomly alternate between the notes in a given time

frame (for example, play approximately 20 notes in the space of 10 seconds). Also, try not to create regulated periodic rhythmic patterns (more erratic, syncopated patterns are preferred)



The players can also repeat notes and use small rests in between notes. If instructed to be **in sync** play the required notes (for example, seven notes out of the square) evenly spaced in the given timeframe (of one second). Also, try to avoid the natural tendency of following the given order of notes in the square. Play the notes in the squares as legato as possible until instructed otherwise. Follow the "tempo" (accel., rit.) or technique changes on each time cell. Wait for Violin 1 cue to jump to the next time cell and

make the transition as smooth as possible with no pause in between. A **triangle fermata** between the time cells indicates that you must hold the last note of the previous cell until cued to the next one. A **normal round fermata** indicates a pause)



= The space between two consecutive vertical dotted lines above any rhythm is **always one second** but it's not always proportional. The players must pay extra attention to the lines so that they follow the tempo correctly.

Metabolos

For String Quartet

Haris Sophocleous

(Violin I, cue players)

Violin I \sim (approx. 20 sec.)

Violin II \sim (approx. 20 sec.)

Viola \sim (approx. 20 sec.)

Violoncello *Alto sul pont.* *scratch tone* *(gradually)* \sim (approx. 20 sec.) *Ord.*

sul C *(no vib.)*

sfz ff *pp*

(15 sec.) (20 sec.) (3 sec.)

(15 sec.) (20 sec.) (3 sec.)

(15 sec.) (10 sec.) (10 sec.) (1 sec.) (3 sec.)

Alto sul pont. *(gradually)* *Ord.* *(1 sec.)*

scratch tone *sul C* *gliss.* *(+50)* *(slow vib. as per rhythm. 2 beats per sec.)*

sfz ff *mf* *fff*

(1 vib per 1 sec.) (4 vib per 1 sec.) (1 sec.) (1 sec.)

(20 sec.) (gradually) (3 sec.)

Alto sul pont. *scratch tone* *sul C*

mf *sfz ff* *mf* *fff*

*1. No vibrato throughout the composition except indicated.

(25 sec.)
sul G (1 sec.) (vib. as per rhythm.)
f

(25 sec.)
sul C (1 sec.) (vib. as per rhythm, 2 beats per sec.)
f

(20 sec.) (5 sec.)
sul C gliss. (+25) gliss.
mp f

(4 sec.)
sul D (no vib.)
gliss.
sul G
sfz mp

(16 sec.)
(Exaggerate bow pressure in random intervals. Noisy pitch. Try not to be in sync with Violin I)
sul G (1 sec.) (gradually) (vib. as per rhythm)

(4 sec.)
sul G
mp

(16 sec.)
(Exaggerate bow pressure in random intervals. Noisy pitch. Try not to be in sync with Violin I)
sul G (1 sec.) (vib. as per rhythm, 3 beats per sec.)
mp

(4 sec.)
sul C (1 sec.) (vib. as per rhythm, 2 beats per sec.)
mp

(16 sec.)
sul pont.
mp

(20 sec.) (5 sec.)
sul D gliss. (-31 cents) sul A (fast) gliss. (+49)
mf sfz mf

(4 sec.) (11 sec.)
sul pont. Ord.
mf

(20 sec.) (5 sec.)
(Use vib. as per rhythm in random order. Alternate between *p-f*)
p f mf

(1.5 sec.) (2.5 sec.) (11 sec.) (4 sec.)
sul A (+41) sul E
mf

(25 sec.)
(use these motives in any order and in the given dynamic range. Randomly incorporate -25/+25 cents microtuning on any notes)
p - f, (♯♭)

(2.25 sec.) (12.75 sec.) (4 sec.)
(Indeterminate, noise-like texture) (Resultant pitches)
scratch tone harmonic (Gradually to normal harmonic) Ord.
sfz mf

(20 sec.) (5 sec.)
(Circular bowing. Alternate between sul pont and sul tasto. Vary the speed of the bow and the dynamics randomly.)
mf

(15 sec.) (4 sec.)
sfz mf

(2.5 sec.) (13.5 sec.) (-29 cents)
 (?) (Resultant pitches) (?) (Indeterminate, noise-like texture)
 sul pont. (as close to the bridge as possible) (5 sec.) (11 sec.)
 mp gliss. gliss. (+25) (Repeat pattern ad. lib.) (vary the speed of the pattern on each repeat.)
 sul D (8 sec.) (8 sec.) mp
 (2 sec.) (6 sec.) (8 sec.) sul D gliss. mp
 (10 sec.) On the bridge (masking pitch) (gradually) Ord.
 f (Random short bursts of tremolo)
 (Circular bowing. Alternate between sul pont. and sul tasto. Vary the speed of the bow randomly.)
 sul pont. sul tasto (10 sec.)
 mf (Random short bursts of vibrato)
 (-49 cents) gliss. (Ad lib.) gliss. Ord.
 f
 (Indeterminate, noise-like texture. Sometimes an F or B is heard) (?)
 sul G (10 sec.)
 (touch randomly) mf

(20 sec.) A
 sul pont. (Use the given pitches and rhythmic cells in random order. Pitches and rhythms can be repeated.)
 8va (-29) (-49) p fff
 (0.5 sec.) (0.5 sec.) (0.25 sec.) (1 sec.)
 (4 sec.)
 sul pont. (20 sec.)
 (vib. as per rhythm in random order and alternate between p dynamics and molto cresc. on each vib. cell)
 p \leq molto cresc. (4 sec.)
 (20 sec.) gliss. (Ad lib.) gliss. Ord. (4 sec.)
 f (Random short bursts of tremolo) fff
 (-49)
 (4 sec.) (Increase bow pressure) (smile) (gradually) Ord.
 (20 sec.) scratch tone sul C sfz f mf
 mf mf

(26 sec.)
 (Left hand fingernail pizz / 2-finger roll on fast tremolo. Play as close to the nut as possible to produce higher harmonics.)

(4 sec.)

(4 sec.)

(4 sec.)

scratch tone (gradually) Ord.

sul D

(Random Left hand fingernail pizz.)

(As close to the nut as possible in order to produce higher harmonics.)

(-31)

(10 sec.)

(16 sec.)

gliss.

(-41)

(-49)

(vib. 2 beats per sec.)

mf

(10 sec.)

(16 sec.)

gliss.

(-49)

sul pont.

(vib. 3 beats per sec.)

(-31)

mf

(26 sec.)

Finger tremolo. The string is alternately pressed and touched lightly

sul G

(fast)

(fast)

(Repeat the two cell. Vary the speed of the accel. / decel.)

p ————— f f ————— p

(4 sec.)

(col legno tratto)

(fast)

sul G

ff

(10 sec.)

(col legno tratto)

(medium)

sul G

ff

(10 sec.)

(col legno tratto)

(slow)

sul G

ff

(10 sec.)

(Start detuning the C string from the peg until reaching a low C ♯)

(15 sec.)

(15 sec.)

(sul G)

gliss.

(-49)

mf

(+27)

(+44)

(slight harmonic vib. 2 beats per sec.)

mf

(15 sec.)

(15 sec.)

gliss.

(+50)

gliss.

(slight harmonic vib. 3 beats per sec.)

sul C

mp, accel. ≤ rit., sul pont. ≤ Ord.

(30 sec.)

(30 sec.)

gliss.

f

ff > p

(Randomly incorporate the given dynamic shape. "Quasi-electronic timbre" due to loose string)

B

*₂ $\begin{matrix} \text{♯} = (+50 \text{ cents}) \\ \text{♯} = (-50 \text{ cents}) \end{matrix}$ (Violin I, cue players on each start of the time cells)

8va

1 note in 2 sec 3 notes : 2 sec (2 : 2 sec) ~ (11 : 6 sec) sul pont. ~ (20 : 10 sec) Ord. (7 : 1 sec / in sync)

mp ff pp mp f fff

6 notes in 2 sec (2 : 2 sec) (4 : 2 sec) ~ (15 : 6 sec) ~ (24 : 10 sec) (7 : 1 sec / in sync)

mp ff pp mp f fff

2 notes in 2 sec (4 : 2 sec) (5 : 2 sec) ~ (20 : 6 sec) ~ (6 : 10 sec) (7 : 1 sec / in sync)

mp ff pp mp f fff

3 notes in 2 sec (5 : 2 sec) (7 : 2 sec) ~ (12 : 6 sec) ~ (20 : 10 sec) (7 : 1 sec / in sync)

mp ff pp mp f fff

*₂ (Randomly alternate between the notes in the given time frame but try not to create regulated periodic rhythmic patterns (more erratic, syncopated patterns are preferred).)

instead of You can also use pauses ad lib.

If instructed to be **in sync** play the required notes evenly spaced in the given timeframe. Notes can be repeated ad lib. Also, try to avoid the natural tendency of following the given order of notes. **Play as legato as possible** until instructed otherwise. Follow the "tempo" (accel., rit.) or technique changes on each time cell. **Wait for Violin I cue** to jump to the next cell and make the transition as smooth as possible with no pause inbetween. A **triangle fermata** between the cells indicates that you must hold the last note of the previous cell until cued to the next one. A normal fermata indicates a pause.

(5 : 4 sec) (6 : 4 sec) (7 : 4 sec) ~ (8 : 4 sec) accel.

mp f mp

(4 sec) (4 sec) (6 : 4 sec) (3 : 4 sec / in sync)

sul pont. gliss. (sul pont.) gliss. Ord. (sul G) (sul pont.)

mp f mp f

(6 : 4 sec) (7 : 4 sec) (8 : 4 sec) (9 : 4 sec)

mp f mp

(7 : 4 sec) (8 : 4 sec) (9 : 4 sec) ~ (10 : 4 sec) accel.

mp f mp

(Indeterminate resultant pitches Noise-like texture. Sometimes C#, E and F are heard) (?) (?) (?) (?)

(Random short bursts tremolo)

(10 : 6 sec) (12 : 6 sec) (14 : 6 sec) ~ (16 : 6 sec) → *accel.*
mp *f* → *fff*
 (Random tremolo on some notes)
 (Indeterminate resultant pitches Sometimes C# and E are heard) (?) (?)
 (6 sec) *sul pont.* *gliss.* (6 sec) *sul pont.* *gliss.* ~ (20 : 6 sec) *sul G (sul pont.)* ~ (20 : 6 sec) *sul pont.* → *Ord.*
mp , (Random short bursts of tremolo) *f* → *fff*
 (6 sec) (6 sec) (6 : 6 sec) (9 : 6 sec)
gliss. *sul C* *gliss.* *sul G*
mp , (Random short bursts of tremolo) *f* → *fff*
 (Resultant pitches) (E) (E) (E)
 (9 : 6 sec) (10 : 6 sec) (11 : 6 sec) ~ (12 : 6 sec) → *accel.*
mp *f* → *fff*

(10 : 4 sec) (5 : 6 sec) ~ (9 : 3 sec) (7 : 6 sec) (1 : 4 sec) (3 sec)
 (Random tremolo on some notes) *Ord.* → *sul pont.* *accel.* *Ord.* "a tempo" (tremolo) (mute on)
mp *f* → *mp* → *f* → *mp* → *f*
 (4 sec) (6 sec) (3 sec) (6 sec) (4 sec) (3 sec)
sul E *gliss.* *gliss.* *gliss.* *gliss.* (mute on)
sul A *mp* → *f* → *mp* → *f* → *mp* → *f* (Finger tremolo)
 (4 sec) (6 sec) (3 sec) (6 sec) (4 sec) (3 sec)
 (+50) *sul D* *gliss.* (+50) *gliss.* (mute on)
 (-50) *sul G* *mp* → *f* → *mp* → *mp* → *f*
 (Indeterminate resultant pitches Noise-like texture. Sometimes G, C# and E are heard) (?) (?)
 (4 sec) (3 sec) (6 sec) (4 sec) (3 sec)
Ord. → *sul pont.* *sul pont.* → *Ord.* *sul pont.* (mute on)
 (Moving from *Ord.* to *sul pont.* creates higher harmonic textures. Randomly vary the speed of the tremolo.) (tremolo)
 (Overpressure. Rasping/Scratch noise)
sff > p → *f > mp* → *sff > p* → *f* → *sff > p* → *mp* → *f*

C

(2 : 4 sec) (4 : 6 sec) (3 : 3 sec) (5 : 6 sec) (1 : 4 sec)

(+50 cents) (+50 cents) (tr) (Random trill between adjacent notes) (tr)

p

(4 sec) (6 sec) (3 sec) (6 sec) (4 sec)

(+50) *gliss.* Ord. *alto sul tasto* (As high on the fingerboard as possible) (vib. 3 beats per sec.) Ord.

(random 0.5 sec tenuto. Play at least 1 on every cell) (-50)

p

(4 sec) (6 sec) (3 sec) (6 sec) (4 sec)

(+50) Ord. *gliss.* *alto sul tasto* (As high on the fingerboard as possible) *gliss.* Ord. (vib. 2 beats per sec.)

p

(4 sec) (6 sec) (3 sec) (6 : 6 sec) (4 sec)

(+50) sul G (+50) sul D (+50) sul G (+50) sul D

(+50) (+50) (+50)

(+50) (random left hand pizz.)

(left hand pizz. One every second)

alto sul tasto (As high on the fingerboard as possible)

(1 : 4 sec) (2 : 4 sec) (3 : 4 sec) (5 : 4 sec) (6 : 4 sec)

(+50) (Random) (tr) (Random)

mp *ff*

alto sul tasto (4 sec) (4 sec) (4 sec) (4 sec) (4 sec)

(+50) *gliss.* (vib. 3 beats per sec.) *gliss.* (vib. 2 beats per sec.) (vib. 3 beats per sec.)

(random left hand pizz. Play at least 1 on every cell) *ff*

mp

(2 : 4 sec) (3 : 4 sec) (4 : 4 sec) (6 : 4 sec) (7 : 4 sec)

(+50 cents)

mp *ff*

(?) (3 : 4 sec / in sync) (4 sec / in sync) (10 : 4 sec) *accel.* "a tempo" (6 : 4 sec / in sync) (3 : 4 sec / in sync)

(Play as close to the nut as possible to produce higher harmonics)

(left hand 2-finger fingernail Pizz.) *f* *mp* *ff*

(Pizz. arpeggio) (random left hand fingernail pizz.) *ff*

(Ord.) (12 : 4 sec) ~ (18 : 4 sec) (3 : 4 sec) ~ (16 : 4 sec) ~ (18 : 9 sec) (4 sec)

accel. → rit. accel. → rit. "a tempo" accel. "a tempo" accel. (mute off)

ff ff mp ff mp ff

(4 sec) (4 sec) (4 sec) (4 sec) (6 : 9 sec / in sync) (4 sec)

sul E gliss. sul A gliss. gliss. (finger nail pizz.) (normal pizz.) (mute off)

mf ff mp ff

(3 : 4 sec / in sync) (5 : 4 sec / in sync) (6 : 4 sec) (6 : 4 sec) (6 : 9 sec) (4 sec)

mf ff mp ff

(3 : 4 sec / in sync) (3 : 4 sec / in sync) (10 : 4 sec) (6 : 4 sec / in sync) (9 sec) (4 sec)

sul D gliss. gliss. accel. "a tempo" (6 : 4) (2 sec) ~ (21 : 7 sec) (mute off)

(left hand snap pizz.) (left hand pizz.) (2-finger Fingernail Pizz.)

mp f mp f sff > mp ff

(Play as close to the nut as possible to produce higher harmonics)

Overpressure/Rasping/Scratch noise (Gradually Ord.)

(Violin I, cue players on each start of the cells.
Duration of each cell at Violin I discretion but at least 10 seconds.)

D

slow tempo (1 to 4) medium tempo (5 to 9) fast tempo (1 to 5) very fast tempo (1 to 9) (9 : 9 sec / in sync)

(legato) (staccato) (legato)

p mp mf f p ff

(Play random double stops on distant notes) (Play random double stops on adjacent notes)

slow tempo (4 to 7) medium tempo (4 to 7) fast tempo (4 to 9) slow tempo (4 to 7) (18 : 9 sec / in sync)

(legato) (legato)

p mp mf f p ff

(Play random double stops on adjacent notes) (Play random double stops on distant notes)

medium tempo (1 to 5) slow tempo (3 to 5) fast tempo (1 to 5) medium tempo (1 to 3) (9 : 9 sec / in sync)

(gliss. between the harmonics)

mp mf f p ff

medium tempo slow tempo fast tempo medium tempo sul pont. (1 : 9 sec / in sync)

(left hand pizz.) (constant rate) (fluctuate the rate of left hand pizz.) sul D sul G

(snap pizz.) (rattle) (Lv) f f p ff

(randomly incorporate this pattern)

(vib. 2 beats per sec.) (vib. 3 beats per sec.)

(20 : 10 sec / in sync) (30 : 10 sec / in sync) (40 : 10 sec / in sync)
 (legato) (staccato) (legato - accents every 3 notes) (legato - accents every 4 notes)
 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10)
 (1)
f **mf** **mp** **p**

(50 : 10 sec / in sync) (40 : 10 sec / in sync) (30 : 10 sec / in sync)
 (legato - accents every 5 notes) (legato - accents every 4 notes) (legato - accents every 3 notes)
 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10) (10)
 (1)
f **mf** **mp** **p**

(10 : 10 sec / in sync) (10 : 10 sec / in sync) (10 : 10 sec / in sync)
 (legato)
 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (10) (9) (8) (7) (6) (5) (4) (3) (2) (1) (10)
f **mf** **mp** **p**

(Ord.) (10 sec) (10 sec) (10 : 10 sec / in sync)
 (Start tuning up the low C string from the peg until reaching C 2)
 gliss. (vib. 2 beats per sec.) (simile)
f **mf** **mp** **p**

♯, # ≠ (+50 cents) (3 sec) (3 sec) (25 sec) (3 sec) (16 sec) (Ord.) alto sul pont.
 (Gradual overpressure -noisy pitch) (scratch tone) (3 sec)
 sul A gliss. **mp** **f**

♯, # ≠ (+50 cents) (2 sec) (7 sec) (25 sec) (16 sec) (Ord.) alto sul pont.
 (Gradual overpressure -noisy pitch) (scratch tone) (3 sec)
 sul G **mp** **f**

♯, # ≠ (+50 cents) (1 sec) (8 sec) (25 sec) (16 sec) (Ord.) alto sul pont.
 (Gradual overpressure -noisy pitch) (scratch tone) (3 sec)
 sul C **mp** **f**

♯, # ≠ (+50 cents) (4 sec) (25 sec) (8.5 sec) (8 sec) (3 sec)
 (Indeterminate) (Moving to sul pont produces higher harmonics.) (Ord.) alto sul pont.
 sul D gliss. gliss. **mp** **f**

E

? (Indeterminate harmonics during gliss.)?

(3:1 sec/in sync) (+50 cents) (simile) (accel.) (5 sec) (5 sec) (5 sec) (5 sec) (5 sec)

sul E (slow speed) (fast speed) (slow speed) (finger tremolo and gliss at the same time)

f *p* *mp*

sul G (+50) (5 sec) (5 sec) (alternate between 3 and 4 vib. beats per sec.)

mf *p*

sul D (+50) (3 sec) (2 sec) (5 sec) (alternate between 2 and 3 vib. beats per sec.)

mf *p*

(3:1 sec/in sync) (+50 cents) (simile) (5 sec) (5 sec) (Ord.) alto sul pont.

mf *ff* *mp* *ff* *mp* *f* *p* *mf* *f*

(Gradual overpressure - noisy pitch)

(3:1 sec/in sync) (simile) (accel.) (rit.) (4:1 sec/in sync) (6:2 sec) (4:1 sec/in sync)

p *f* *mf* *f* *p*

sul G (Ord.) (5 sec) (Sul pont produces higher harmonics) (Ord.) (Indeterminate resultant pitches Noise-like texture) (5 sec) (?) (?)

(finger tremolo) (slow speed) (fast speed) (slow speed) *mp* *f* *mp* *mp* *f* *mp*

(Not reliable. If A is not possible, let the resultant pitch fluctuate) (5 sec) (Indeterminate resultant pitches Noise-like texture) (5 sec) (?) (?)

sul G (slow speed) (fast speed) (slow speed) (Ord.) sul pont. (Ord.) *mp* *f* *mp* *f* *mp*

(finger tremolo)

(3:1 sec/in sync) (simile) (4:1 sec/in sync) (6:2 sec) (4:1 sec/in sync)

sul D port. *f* *p* *f* *mp* *ff* *mp* *ff* *mp* *f* *p* *f*

sub. sub. sub. sub. sub.

(3:1 sec/ in sync) (1:1 sec) (2:1 sec / in sync) (6:2 sec) (2:1 sec/ in sync)

p *f* *mf* *f* *p*

(Not reliable. If A is not possible, let the resultant pitch fluctuate) (Indeterminate resultant pitches. F6 could be heard)

sul G ?(A)Ⓞ ?(A)Ⓞ (5 sec) (5 sec)

sul pont. (fluctuate randomly between slow and fast finger tremolo. Not in sync with Viola) (Ord.) (fluctuate randomly between slow and fast finger tremolo. Not in sync with Viola)

p *f* (*p* dynamics when slow, *f* dynamics when fast) (*p* dynamics when slow, *f* dynamics when fast)

(Indeterminate resultant pitches Noise-like texture) (Indeterminate resultant pitches Noise-like texture)

(?) (?) (5 sec) (5 sec)

sul C (fluctuate randomly between slow and fast finger tremolo. Not in sync with Violin II) (Ord.) sul pont. (fluctuate randomly between slow and fast finger tremolo. Not in sync with Violin II)

p *f* (*p* dynamics when slow, *f* dynamics when fast) (*p* dynamics when slow, *f* dynamics when fast)

(3:1 sec/ in sync) (2:1 sec/ in sync) *port.* sul pont. (6:2 sec / in sync) Ord. (2:1 sec/ in sync)

f *p* *f* *p* *ff* *mp* *ff* *mf* *ff* *mp* *ff* *p* *f* *p* *mf* *f*

(3:1 sec/ in sync) (2:1 sec/ in sync) (5:2 sec) (2:1 sec/ in sync)

p *f* *mf* *f* *p*

(10 sec)

(Slow tempo) (Play 1-10 randomly. Gradually increase the rate of notes per sec) (Fast tempo)

mp (Randomly incorporate tremolo)

(During the 10 sec period, choose to hold any note for 1 sec, three times, then continue on as instructed)

(1 sec) (1 sec) (1 sec)

(Slow tempo) (Play 1-10 randomly. Gradually increase the rate of notes per sec) (Fast tempo)

mp

(3:1 sec/ in sync) (2:1 sec/ in sync) *port.* sul pont. (6:2 sec / in sync) Ord. (2:1 sec/ in sync)

f *p* *f* *p* *ff* *mp* *f* *ff* *mf* *ff* *mp* *ff* *p* *f* *p* *mf* *f*

F (at least 4 sec.)

(6:1 sec / in sync) Ord. (6 sec.) (Gradual overpressure -noisy pitch)

sf p mf

(at least 4 sec.) (7:1 sec / in sync) Ord. (6 sec.) (Gradual overpressure -noisy pitch)

sf p mf

(5:1 sec / in sync) sul pont. (wait until cued by violin I) (7 sec.)

sf p mf

sul D gliss.

(Semi-harmonics. Player must gliss with a constant pressure on the string which is right inbetween a stopped note and a harmonic)

(7:1 sec / in sync) sul pont. (wait until cued by violin I) (7 sec.)

sf p mf

sul G gliss.

(Semi-harmonics. Player must gliss with a constant pressure on the string which is right inbetween a stopped note and a harmonic)

(+50 cents) (6.25 sec) (0.25 sec)

p gliss.

(+26) (+49) (+26)

(+50 cents) (0.5 sec) (5:2 sec) (5:2 sec) (4:1.75 sec) (0.75 sec)

mp sul pont.

(+45) (+24) (-49) (-31) (+45) (+24) (+45) (+24) (+45) (+24)

(-5) (-49) (-31) (-49) (-31) (-5)

(+50 cents) (5:2 sec) (6:2 sec) (6:2.25 sec / in sync) (0.25 sec)

mf sul pont.

(+26) (-6) (-26) (-31) (-33) (-26) (-31) (-6) (-26) (-31) (-33) (-6) (-26) (-6) (-26) (-6) (-26)

(+50 cents) (0.25 sec) (1 sec) (1 sec) (1 sec) (9:2 sec)

ff (-26) f sul pont.

(+26) (+45) (-26) (-26) (+24) (simile) (+24) (+26) (+45) (-26)

(Incorporate a small pause with change of bow direction)

♯ = (+50 cents) (4: 2 sec) (5: 2 sec) (5: 2 sec) (6: 2 sec)
 sul pont. legato *p*
 (Play the given pitches randomly and not in sync with the rhythmic pulse of Viola and Cello)

♯ = (+50 cents) (3: 2 sec) (7: 2 sec) (5: 1 sec) (4: 1 sec) (3: 2 sec)
 sul pont. legato *mp*
 (Play the given pitches randomly and not in sync with the rhythmic pulse of Viola and Cello)

♯ = (+50 cents) (1 sec) (simile)
 sul pont. legato *mf*
 (Overpressure -noisy pitch)

♯ = (+50 cents) (1 sec) (simile)
 sul pont. legato *f* *ff > f* *ff > f*
 (Overpressure -noisy pitch) *port.* *port.*

Ord. (2 sec) (2 sec) (8 sec) (1 sec) (1 sec) (2 sec)
p
 (Interrupt A_4 by incorporating a fast acciaccatura / left hand pizz pattern)

sul pont. (3: 2 sec) (5: 2 sec) (5: 1 sec) (4: 1 sec) (7: 2 sec)
mp

Ord. legato (Overpressure -noisy pitch. Except harmonics) *mf*

Ord. legato (Overpressure -noisy pitch. Except harmonics) *ff f* *ff f*

(8 sec)

(2 sec) (2 sec) (1 sec) (1 sec) (2 sec)

(Scratch note) (Interrupt C pitch randomly by incorporating a fast scratch tone / left hand pizz pattern)

Ord.

p *f* *p* *f* *p* *f* *p* *f* *p* *f* *p*

(tremolo)

(8 sec)

sul tasto

(Fluctuate the rate of notes per second. Follow the given dynamic curve)

(Play the given pitches randomly and not in sync with the rhythmic pulse of Viola and Cello)

mp

(Overpressure -noisy pitch. Except harmonics)

mf

(Overpressure -noisy pitch. Except harmonics)

f *ff* *f* *ff* *f*

(8 sec)

Ord.

sul A sul D sul G

p

(Small pause on A string when playing on G string.)

(8 sec)

(Accel.) (Rit.) (Accel.) (Rit.) (Accel.) (Rit.) (Accel.) (Rit.)

sul tasto

(Use random acciacaturas)

mp

(No overpressure)

mf

(No overpressure)

f *ff* *f* *ff* *f*

(10 sec)

Four staves of musical notation. The top staff is labeled 'Ord.' and starts with a dynamic marking of *p*. The second staff is labeled 'Ord.' and starts with *mp*. The third staff is labeled 'Ord.' and starts with *mf*. The bottom staff is labeled 'Ord.' and starts with *f*. The notation includes various glissando markings ('gliss.'), tremolos, and dynamic markings such as *(p)* and *(+)*. Specific techniques like 'sul D' and 'sul A' are indicated. Vertical dashed lines mark time intervals.

(11 sec)

Four staves of musical notation. The top staff is labeled 'sul D' and starts with a dynamic marking of *p*. The second staff is labeled 'sul A' and starts with *mp*. The third staff is labeled 'mf' and starts with *(p)*. The bottom staff is labeled 'sul G' and starts with *f*. The notation includes various glissando markings ('gliss.'), dynamic markings such as *(p)* and *(+)*, and a specific instruction '(Random left hand pizz)'. Vertical dashed lines mark time intervals.

(11 sec)

This system contains four staves of music. The top staff is in treble clef with a *p* dynamic, featuring glissando markings and a circled *(p)* dynamic. The second staff is also in treble clef with a *mp* dynamic, including a circled *(p)* dynamic and the instruction "(finger tremolo while glissing)". The third staff is in bass clef with a *mf* dynamic, featuring glissando markings and a circled *(p)* dynamic. The bottom staff is in bass clef with a *f* dynamic, including a *mp* section, a circled *(p)* dynamic, and the instruction "(Sul pont produces higher harmonics)". It also includes markings for "sul A", "sul A", "sul C", "sul G", "sul C", "sul pont.", "Ord.", "sul G", and "finger tremolo".

This system contains four staves of music. The top staff is in treble clef with a *mp* dynamic, featuring a circled *(p)* dynamic and glissando markings. The second staff is in treble clef with a *mp* dynamic, including a circled *(p)* dynamic and glissando markings. The third staff is in bass clef with a *mp* dynamic, including a circled *(p)* dynamic and glissando markings. The bottom staff is in bass clef with a *mp* dynamic, including a circled *(p)* dynamic, "sul G", "(left hand pizz.)", "sul pont.", "sul C", "arco sul pont.", "Ord.", "sul G, D", and "(Random short bursts of tremolo)".

First system of musical notation. It consists of four staves. The top staff is in treble clef with a 7/8 time signature. It features dynamic markings *mf*, *Ad lib.*, *mf*, and *mp*. Performance instructions include *gliss.*, *sul pont.*, and *sul A*. The second staff is also in treble clef with a 7/8 time signature, featuring *mf* and *Ad lib.* markings, and a note to "(incorporate a small pause in the pattern)". The third staff is in bass clef with a 7/8 time signature, featuring *p*, *mf*, *Ad lib.*, *mf*, and *p* markings, and *gliss.* instructions. The bottom staff is in bass clef with a 7/8 time signature, featuring *mp* and *mf* markings, and *sul D* and *sul pont.* instructions, including a note "(2 vib. beat per sec.)".

Second system of musical notation. It consists of four staves. The top staff is in treble clef with a 7/8 time signature, featuring *p* and *mf* markings, and *sul tasto* instructions. The second staff is in treble clef with a 7/8 time signature, featuring *p* and *mf* markings, and *gliss.* instructions. The third staff is in bass clef with a 7/8 time signature, featuring *mp* markings, and *sul G*, *sul A*, and *sul C* instructions. The bottom staff is in bass clef with a 7/8 time signature, featuring *pp*, *mp*, and *mf* markings, and *sul D* instructions. Time durations are indicated above the staves: (9:1 sec), (9:1 sec), (4 sec), (4 sec), (5:1 sec), (6:1 sec), (3:1 sec), (4:1 sec), and (4 sec).

The first system of the musical score consists of four staves. The top staff is in treble clef with a key signature of one sharp (F#) and a 7/8 time signature. It features a glissando from a lower note to a higher one, with dynamics *mf*, *mp*, and *ff*. The second staff is in treble clef with a key signature of one sharp and a 7/8 time signature. It includes instructions for *sul G*, dynamics *mf*, *p*, *mf*, *p*, and *ff*, and a *gliss.* leading to a *sul pont* section with a *9:1 sec* duration. The third staff is in bass clef with a key signature of one sharp and a 7/8 time signature. It includes instructions for *sul G*, *gliss.*, *sul C*, and dynamics *mf*, *p*, *mf*, *p*, and *ff*. The bottom staff is in bass clef with a key signature of one sharp and a 7/8 time signature. It includes instructions for *sul tasto*, *sul D*, *sul G*, and dynamics *p*, *mp*, *p*, and *ff*. It also features vibrato markings: *(2 vib. beat per sec.)* and *(3 vib.)*, and a *scratch tone* indicated by a jagged line.

The second system of the musical score consists of four staves. The top staff is in treble clef with a key signature of one sharp and a 7/8 time signature. It features a glissando from a lower note to a higher one, with dynamics *pp*, *mf*, *mp*, *mf*, and *mp*. It includes vibrato markings: *(2 vib.)* and *(3 vib.)*. The second staff is in treble clef with a key signature of one sharp and a 7/8 time signature. It includes instructions for *gliss.*, dynamics *mp*, and vibrato markings: *(3 vib.)*, *(2 vib.)*, and *(-37)*. The third staff is in bass clef with a key signature of one sharp and a 7/8 time signature. It includes instructions for *gliss.*, dynamics *mf*, *p*, and *mp*. It also features vibrato markings: *(4 vib.)*, *(4:1 sec / in syne)*, *(5:1 sec / in syne)*, and *(+24)*. The bottom staff is in bass clef with a key signature of one sharp and a 7/8 time signature. It includes instructions for *sul C*, *sul G*, and dynamics *p* and *mp*. It also features a *gliss.* instruction.

The first system consists of four staves, each with a 3-second duration. The top staff is marked 'sul D' and contains five glissando passages with dynamic markings *pp*, *p*, and *mp*. The second staff is marked 'sul G' and contains three glissando passages with dynamic markings *f* and *mf*. The third staff is marked 'sul C' and contains five glissando passages with dynamic markings *mp*, *ff*, *mp*, *f*, and *mf*. The bottom staff is marked 'sul C' and contains three glissando passages with dynamic markings *f*, *p*, *mf*, and *f*. Vertical dashed lines indicate the timing of the glissando passages across all staves.

The second system also consists of four staves, each with a 5-second duration. The top staff contains five glissando passages with dynamic markings *p*, *mp*, and *mf*. The second staff contains four glissando passages with dynamic markings *mf*, *f*, *mf*, and *f*. The third staff contains five glissando passages with dynamic markings *f*, *mp*, *ff*, *mp*, and *f*. The bottom staff is marked 'sul C' and contains four glissando passages with dynamic markings *f*, *p*, and *mf*. Four boxes labeled 'h, # = (+50 cents)' are positioned to the left of the staves, indicating specific pitch bends. Vertical dashed lines indicate the timing of the glissando passages across all staves.

The first system consists of four staves. The top two staves are in treble clef, and the bottom two are in bass clef. The music is marked with glissando (gliss.) and dynamic markings: *mp*, *mf*, *pp*, and *p*. A downward arrow is positioned above the first staff. A circled *(3 sec)* is placed above the first staff. At the top right, there are two time-related annotations: $(5:1 \text{ sec} / \text{in sync})$ and $(4:1 \text{ sec} / \text{in sync})$. The notation includes various note values and slurs.

The second system also consists of four staves. The top two are in treble clef, and the bottom two are in bass clef. It features *sul pont* (sul ponticello) markings, vibrato markings (e.g., *(3 vib.)*, *(1 vib.)*), and glissando markings. Dynamic markings include *mp*, *p*, and *ff*. A downward arrow is positioned above the first staff. A circled *(3 sec)* is placed above the first staff. The notation includes various note values, slurs, and vibrato markings.

Four systems of musical notation, each labeled "sul G" at the top left. Each system consists of a treble clef staff with notes and accidentals, and a numbered staff below it with numbers 1 through 17. Above the notes are circled letters: E, A, and G. Some notes have a circled "8va" above them. A note on the 4th staff has the text "(Sounds where written)" above it. The notes in each system represent a sequence of harmonics for the G string.

H (Alternate between the given harmonics and follow the changes of the speed of the tremolo. Bow should be *sul pont*. Bear in mind that the sounding pitches of these higher harmonics will fluctuate vastly depending on variables such as bow speed and position, pressure, tremolo speed and so on (sounding pitches are given just for reference). You should **not** aim for the given resultant pitches and these pitches only. Let the variables fluctuate the resultant pitches into a chaotic amalgam of harmonics and noise-like textures)

Four systems of musical notation for a performance exercise. The first system is a treble clef staff with a treble clef, a key signature of one sharp (F#), and a common time signature. It features a tremolo pattern over a series of notes. Above the staff are three brackets, each labeled "(6 sec.)". Below the staff are dynamic markings: *mp*, *ff*, *mp*, *ff*, and *mp*. The instruction "sul G, sul pont (all the way)" is written above the first and last sections. The second system is a treble clef staff with a treble clef, a key signature of one sharp, and a common time signature. It features a tremolo pattern over a series of notes. Above the staff are three brackets, each labeled "(6 sec.)". Below the staff are dynamic markings: *mp* and *ff*. The instruction "sul G, sul pont (all the way)" is written above the last section. The third and fourth systems are treble clef staves with a treble clef, a key signature of one sharp, and a common time signature. Each system features a tremolo pattern over a series of notes. Above each staff is a bracket labeled "(6 sec.)".

(6 sec.) (6 sec.) (6 sec.)

ff *mp* *ff* *mp*

(6 sec.) (6 sec.) (6 sec.)

mp *ff* *mp* *ff* *mp*

(6 sec.) (6 sec.) (6 sec.)

(6 sec.) (6 sec.) (6 sec.)

(10 sec.) (10 sec.) (10 sec.)

Switch notes approx. every 1 or 2 sec. but not on the beat
(Random choosing between given notes) *ff* *mp*

Switch 2 or 3 sec. (Simile) *ff* *mp*

Switch 1 or 2 sec. *8va*

(10 sec.) (10 sec.) (10 sec.)

Switch notes approx. every 2 or 3 sec. but not on the beat
(Random choosing between given notes) *mp* *ff* *mp* *ff* *mp*

Switch 1 or 2 sec. *mp* *ff* *mp*

(10 sec.) (10 sec.) (10 sec.)

sul G, sul pont (all the way) *mp* *ff* *mp* *mp* *ff* *mp*

(10 sec.) (10 sec.) (10 sec.)

sul G (all the way), sul tasto *p* *p*

Musical score for a 10-second piece, divided into three 10-second segments. The score is written in treble clef and includes dynamic markings and switching instructions.

- Segment 1 (0-10 sec):** Starts with *ff*, switches to *mp* at 10 seconds. Includes a "Switch 1 or 2 sec" instruction.
- Segment 2 (10-20 sec):** Starts with *ff*, switches to *mp* at 20 seconds. Includes a "Switch 1 or 2 sec" instruction.
- Segment 3 (20-30 sec):** Starts with *mp*, switches to *ff* at 25 seconds. Includes a "Switch 1 sec" instruction and an *8va* marking.

Additional markings include *sul G*, *sul pont*, *sul tasto*, and *sul G*. The final dynamic is *ff p*.

Musical score for a 20-second piece, divided into four 20-second segments. The score is written in treble clef and includes dynamic markings and vibrato instructions.

- Segment 1 (0-20 sec):** *sul D*, *mp*, ends with *p*. Includes an "End cue" arrow.
- Segment 2 (20-40 sec):** *sul A*, *sul D*, *mp*, ends with *p*.
- Segment 3 (40-60 sec):** *sul A*, *sul D*, *mp*, ends with *p*.
- Segment 4 (60-80 sec):** *sul C*, *ppp*, includes vibrato markings: (2 vib.), (no vib.), (3 vib.), (2 vib.), (no vib.).