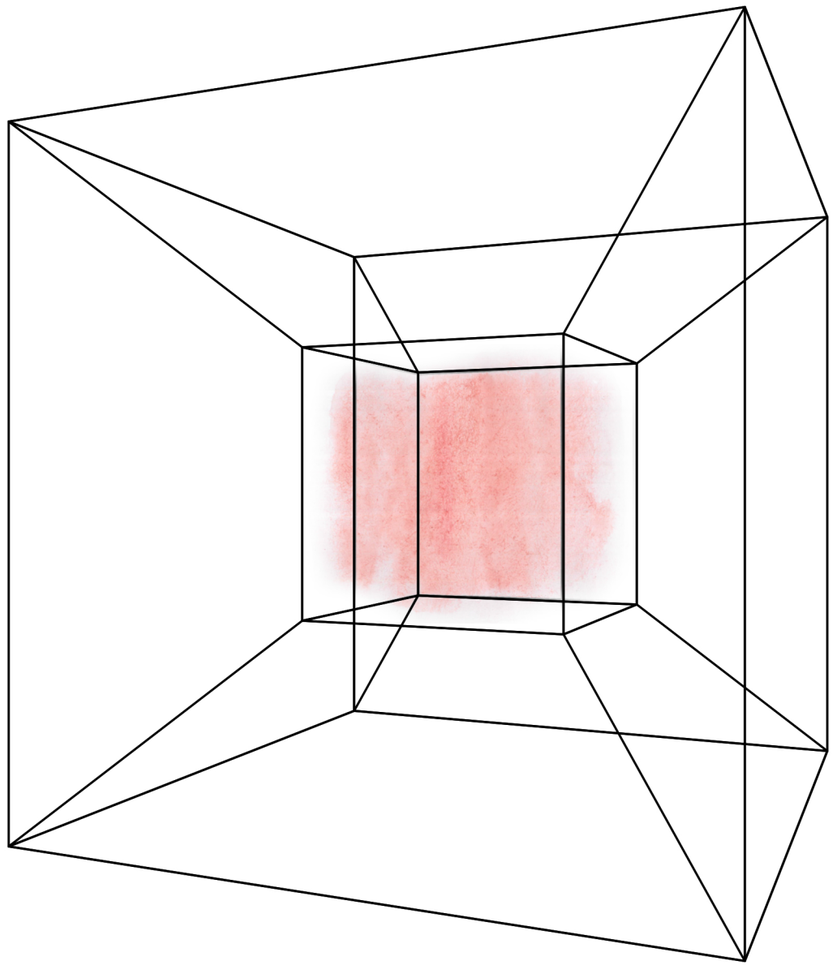

yet another example of the porousness of certain borders

for Dario Calderone

Oliver Thurley, 2014

Commissioned by impuls. International Ensemble and Composers Academy for Contemporary Music, Graz/Austria • Premiered at Gaudeamus Muziekweek 2015, Utrecht/Netherlands
Part of the project *Solo Double Bass* within the Ulysses Network • impuls.cc • muziekweek.nl • project.ulysses-network.eu

performance notes

for solo contrabass

ca. 10’

{E_1-A-D-G}, sounds one octave lower

fragile. extremely quiet. faltering, always unstable.

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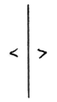
notation

◇ - harmonic finger position

⟶ - slow, even transition from one state to another

 - multiphonic (approximate position, *see appendix*)

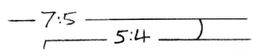
 - no notehead: soft re-articulation of tied note, echoing

- string number (I-IV)

- note in parenthesis: played with less energy, almost a gracenote

N.B. in the case of harmonic/multiphonic effects, the resulting pitch is given above in brackets [ ]

Tuplets may be nested within other tuplets. In these cases, the brackets are tied together with a curved line. If tuplets are not tied, they are assumed to be independent of one another, but acting concurrently.



pizzicato

- regular *pizzicato*

 - *pizz.* with left hand (usually an open string)

- harmonic *pizz.* (with left hand) - using thumb or index finger to touch harmonic node; *pizz.* with spare finger

bow position

MST - *molto sul tasto*: close to left hand

ST - *sul tasto*

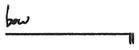
ord. - ordinary bow position

SP - *sul ponticello*

MSP - *molto sul ponticello*: almost on the bridge: a sharp tone, with crisp harmonic partials

- bow on harmonic node. lighter *flautando* for a shadowy, filtered harmonic tone, or slow/overpressure to bring out sub-harmonic

- bow on tailpiece. strings and body resonate. overpressure (particularly at the thinner section) brings out 'squeak'

 - bracket indicates a single (or significantly slowed) bow length. used to slow bow movement significantly: the tone should falter as the bow sticks and slips

finger pressure

The left-hand finger pressure compressing a note may shift, cause the string to sound as either regular tone, harmonic or otherwise destabilised.

- harmonic pressure

- 50% pressure (between harmonic and normal, sounding unstable)

- 100% pressure (normal)

Unless indicated otherwise, presume all events are performed *ord.* in terms of bow position and finger pressure.

general notes

multiphonics

Multiphonics are notated as a harmonic position with an 'M' (and string number I-IV). The theoretical sounding pitches are given in a bracketed staff above the main stave. String multiphonics are achieved through clusters of close harmonic nodes, and by playing a harmonic close to the highest partial. Above the sounding pitches, the sounding partials are given (i.e. M IV[4th + 13th + 9th + 15th + 5th]). Note that not all of these pitches will actually sound.

waveform dynamics

Dynamics of the piece are given through the waveforms below the stave. The waveforms should be read in the manner of a continuous dynamic hairpin. The dynamic bandwidth is extremely limited, ranging from roughly *pppppp-ppp*. As the waveform is in a continuous state of flux, the performer must make constant minute adjustments to bow pressure; inevitably this will result in tremors, fluctuations and instability in amplitude.

remarks on quietness

The volume for this piece is *extremely* low. It is intended that many of the notes (particularly the multiphonics) will not sound as written. Indeed, many pitched tones will falter, fail to sound, or fracture completely. The entire piece is fragile and remains porous to the agency of the performer.

amplification

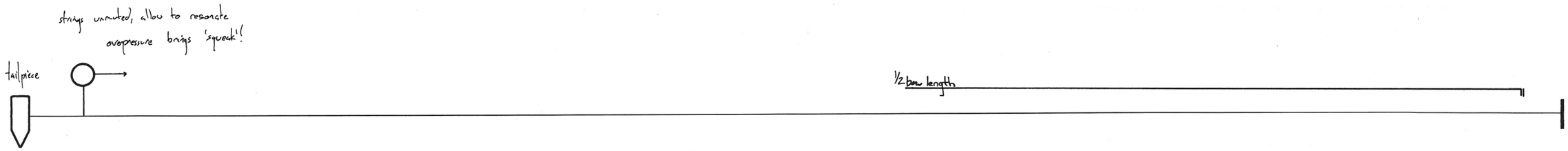
Depending upon the size and acoustic nature of the performance space, the performer can choose either to play acoustically, or amplified. If amplified, the sound should be clean at all times, though the level is left to the performer. If desired, a lower level may be used as a transparent tool to bolster the sound of the instrument, or—alternatively—one may pursue a higher volume. In this case amplification is to be used as a microscope for drawing listeners 'inside' the sound. Close-mic techniques (using small diaphragm condensers and avoiding interference with the performance) should be used to focus upon key areas of the bass which may afford a unique listening perspective. These might include (but are not limited to):

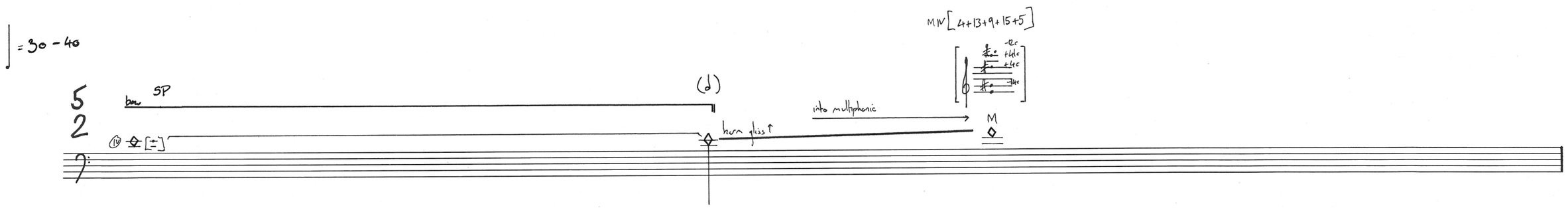
- Internal microphone placement (Inside the body of the instrument)
- Contact microphones, or small lavalier mics on the tailpiece, body and head of the instrument
- Stereo string imaging (Mics on string I and IV, panned hard left and right)
- Lavalier mic on the performer (to accentuate breathing etc.)

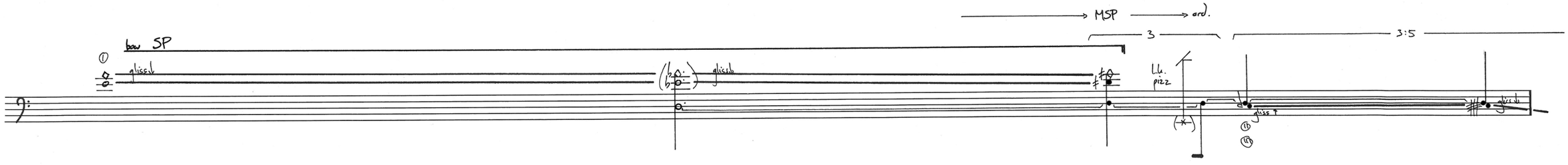
second draft
version: 1.0 [August, 2015]

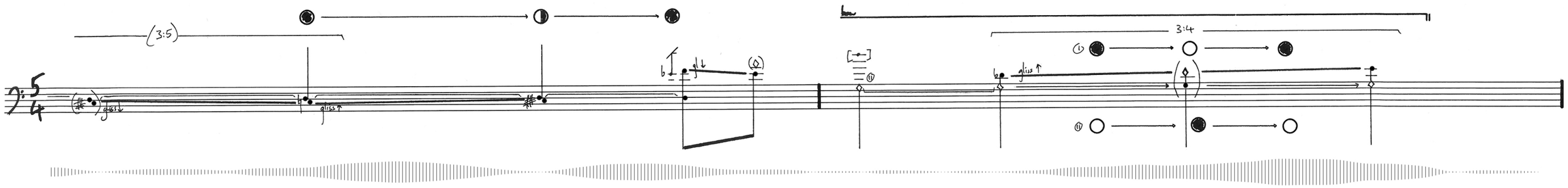
Oliver Thurley
Winter, 2014

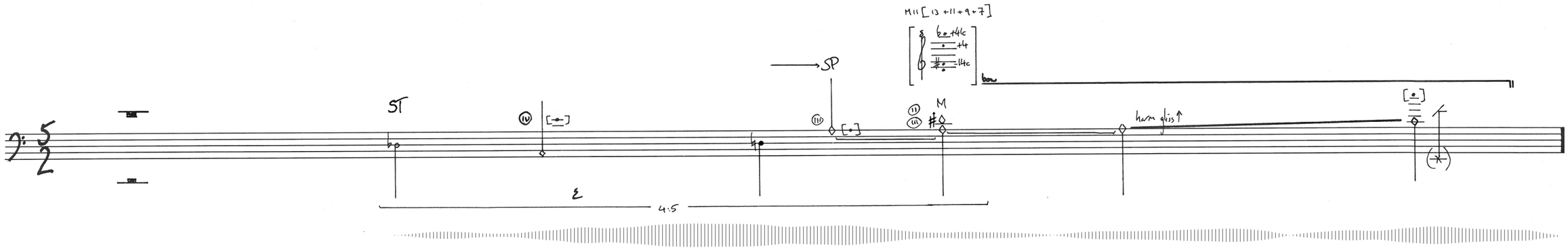
yet another example of the porousness of certain borders

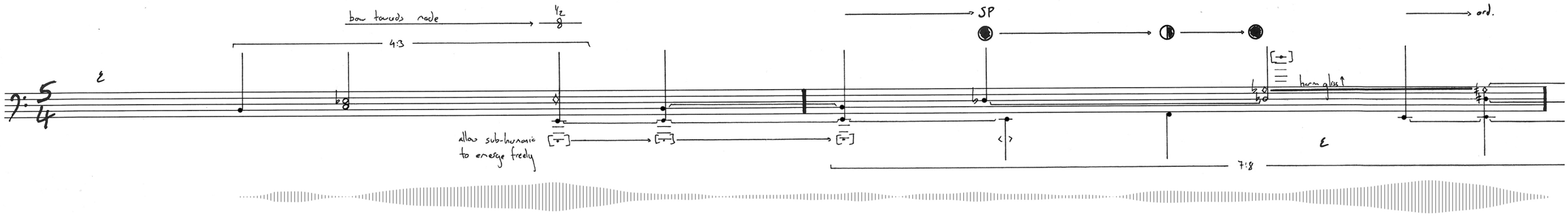







(3:5)
gliss↓
gliss↑
bow
3:4
gliss↑


M11 [13+11+9+7]
+4c
+4
14c
bow
SP
ST
M
harm gliss↑
4:5


bow towards node
1/2
4:3
SP
ord.
harm gliss↑
allow sub-harmonic
to emerge freely
7:8

SP

MI [4+13+9+5]

MIIIII [4+13+9+5]

MSP

9:8

7:8

MSP

bow behind left hand

MIII [5+11+6]

MIII&IV [5+11+6]

MIII [6+13+7]
MIV [5+11+6]

11:9

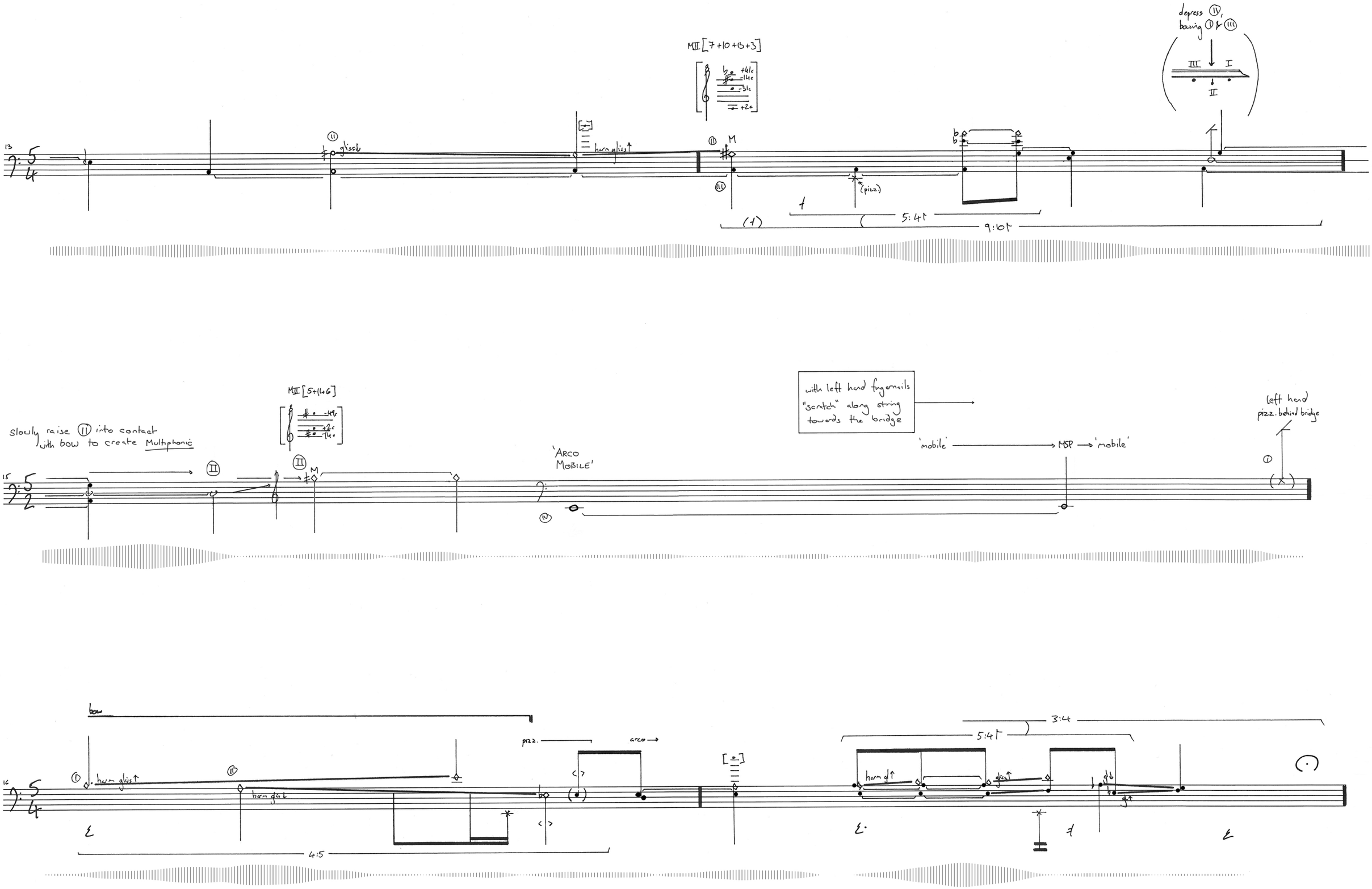
ord.

bow

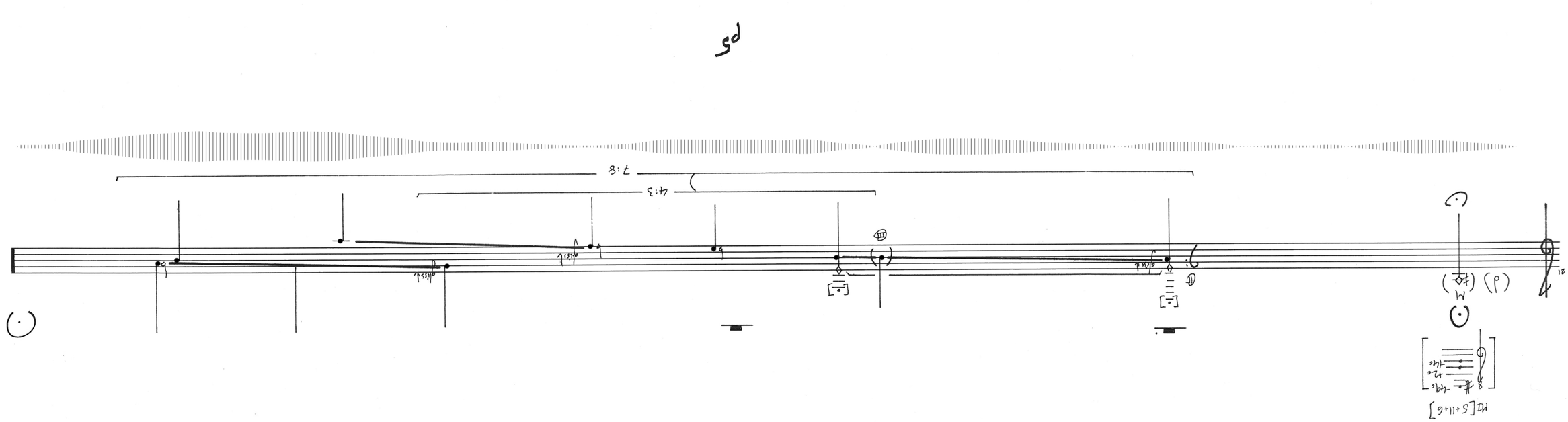
3:4

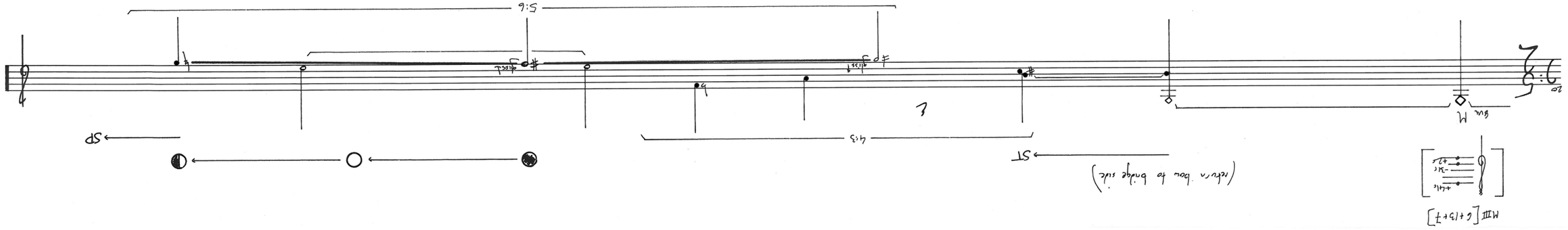
5:4

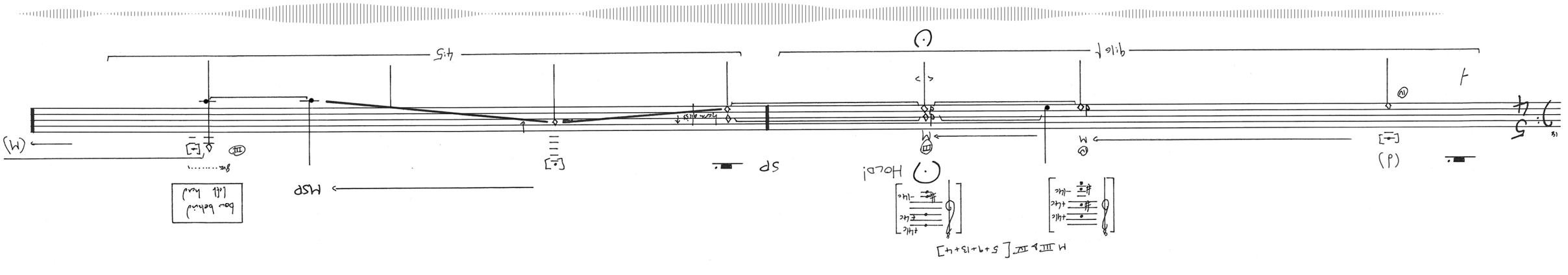
5:6



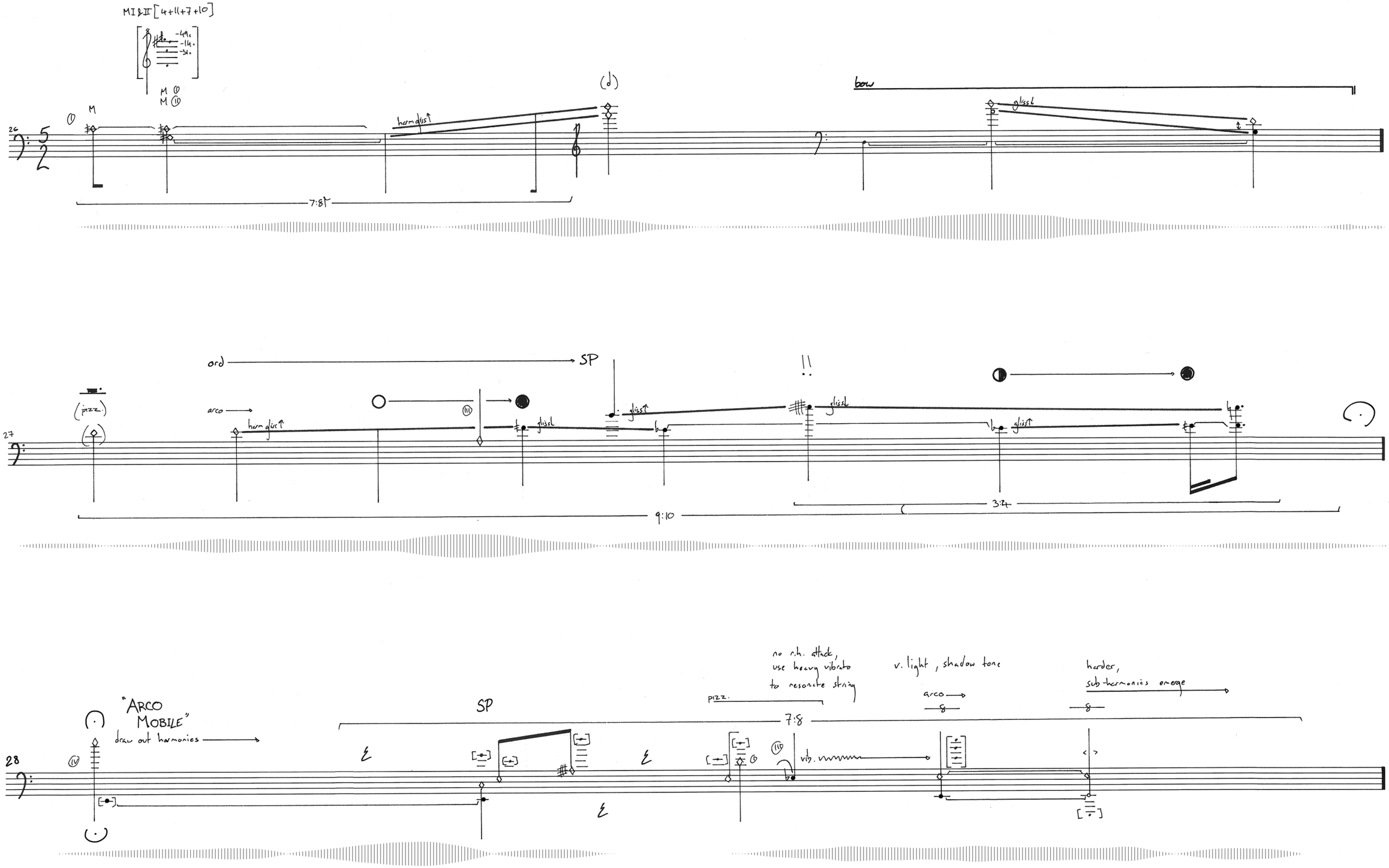
depress (IV), bowing (I) & (III)
MII [7+10+13+3]
gliss
harm gliss
(pizz.)
5:4
9:10
slowly raise (II) into contact with bow to create Multiphonic
MII [5+11+6]
'Arco Mobile'
with left hand fingernails "scratch" along string towards the bridge
'mobile' → MSP → 'mobile'
left hand pizz. behind bridge
bow
harm gliss
pizz.
arco
3:4
5:4
4:5

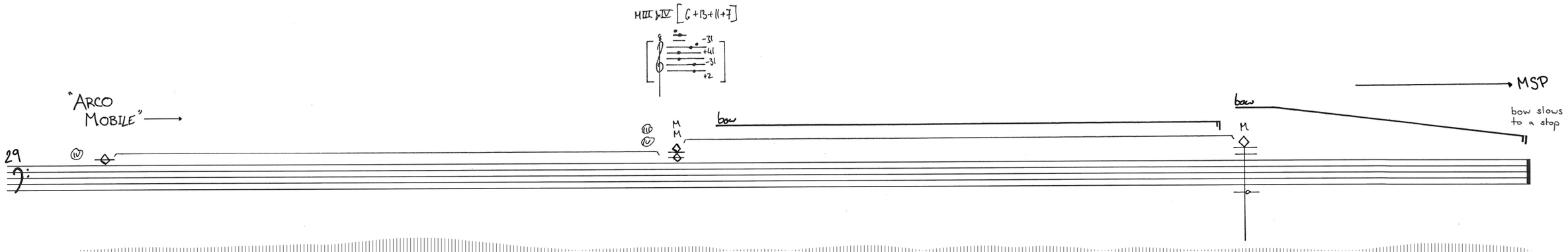

pp
7:8
4:3
(M)
(d) (#◇)
M
21
M[S+11+6]
(M)

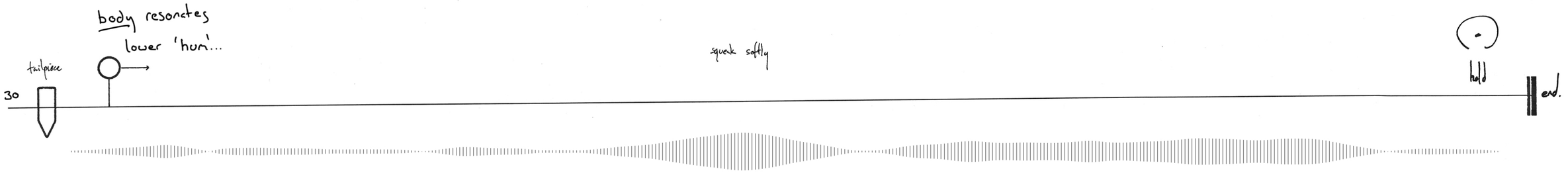

5:6
4:3
ST
(return bow to bridge side)
M
8va
20
MIII[6+13+7]


4:5
MSP
bow behind left hand
SP
Hard attack
(M)
M
(d)
q.ile
M III & IV[5+9+13+4]
Hard
18

SP
bow
MSP
22
gliss
gliss
gliss
ord.
bow
6:5
MSP
24
gliss
gliss
gliss
very light pizz
w/ left hand
pizz
w/ l.h.
MI[4+11+7+10]
SP
MSP
ord.
5:6
25
l.h pizz
harm gliss
MST
SP
gliss
pp

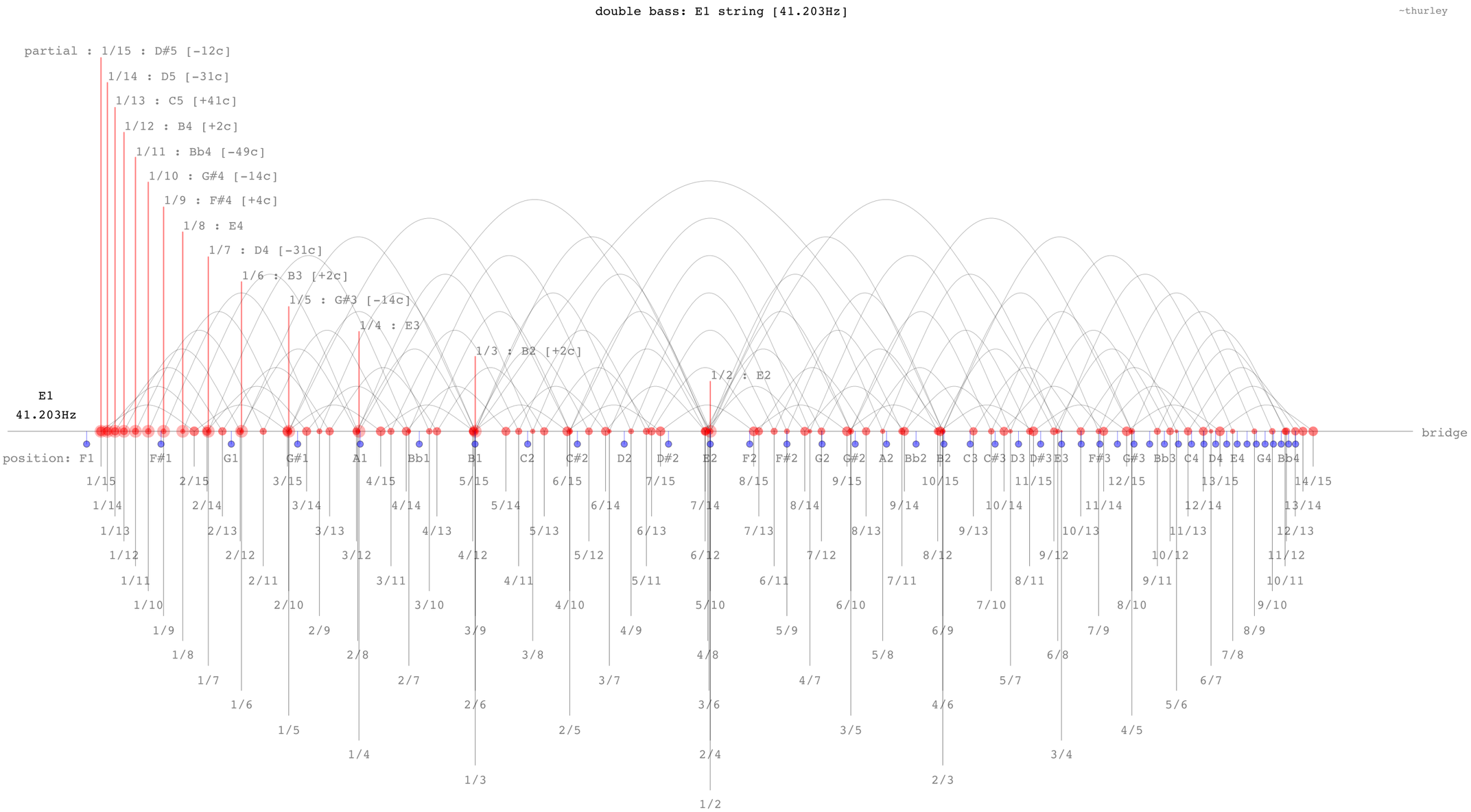

MI&II [4+11+7+10]
M
M
(d)
bow
gliss
harm gliss
7:8
ord
SP
arco
(pizz.)
harm gliss
gliss
gliss
gliss
9:10
3:4
"ARCO MOBILE"
draw out harmonics
SP
pizz.
no r.h. attack, use heavy vibrato to resonate string
v. light, shadow tone
arco
harder, sub-harmonics emerge
7:8
vib.


III XIV [G+13+11+7]
-31
+41
-31
+2
"ARCO MOBILE"
29
IV
III
IV
M
M
bow
M
bow
MSP
bow slows to a stop


body resonates
lower 'hum'...
tailpiece
30
squeak softly
hold
end.

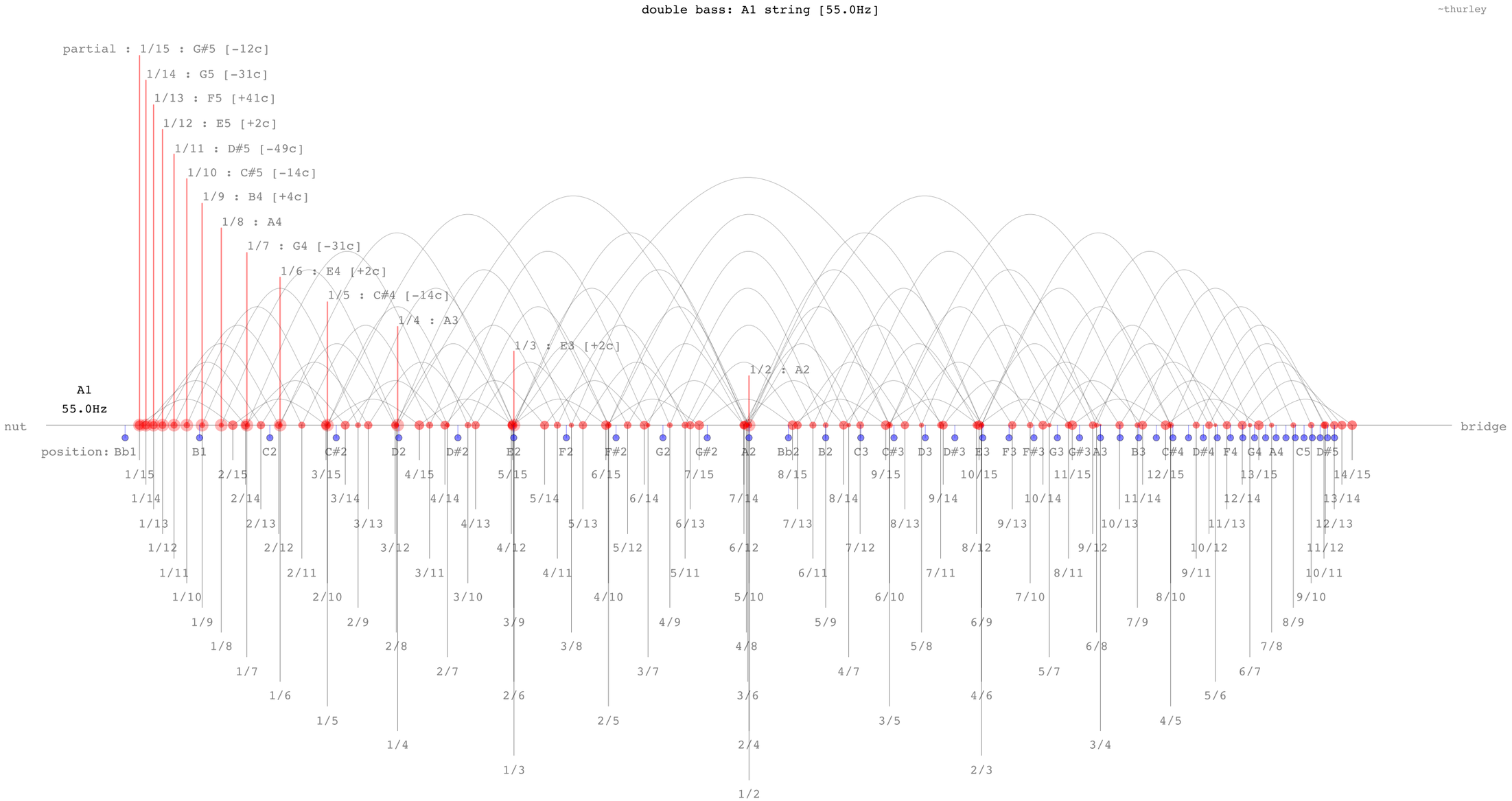
appendix: harmonic & multiphonic charts

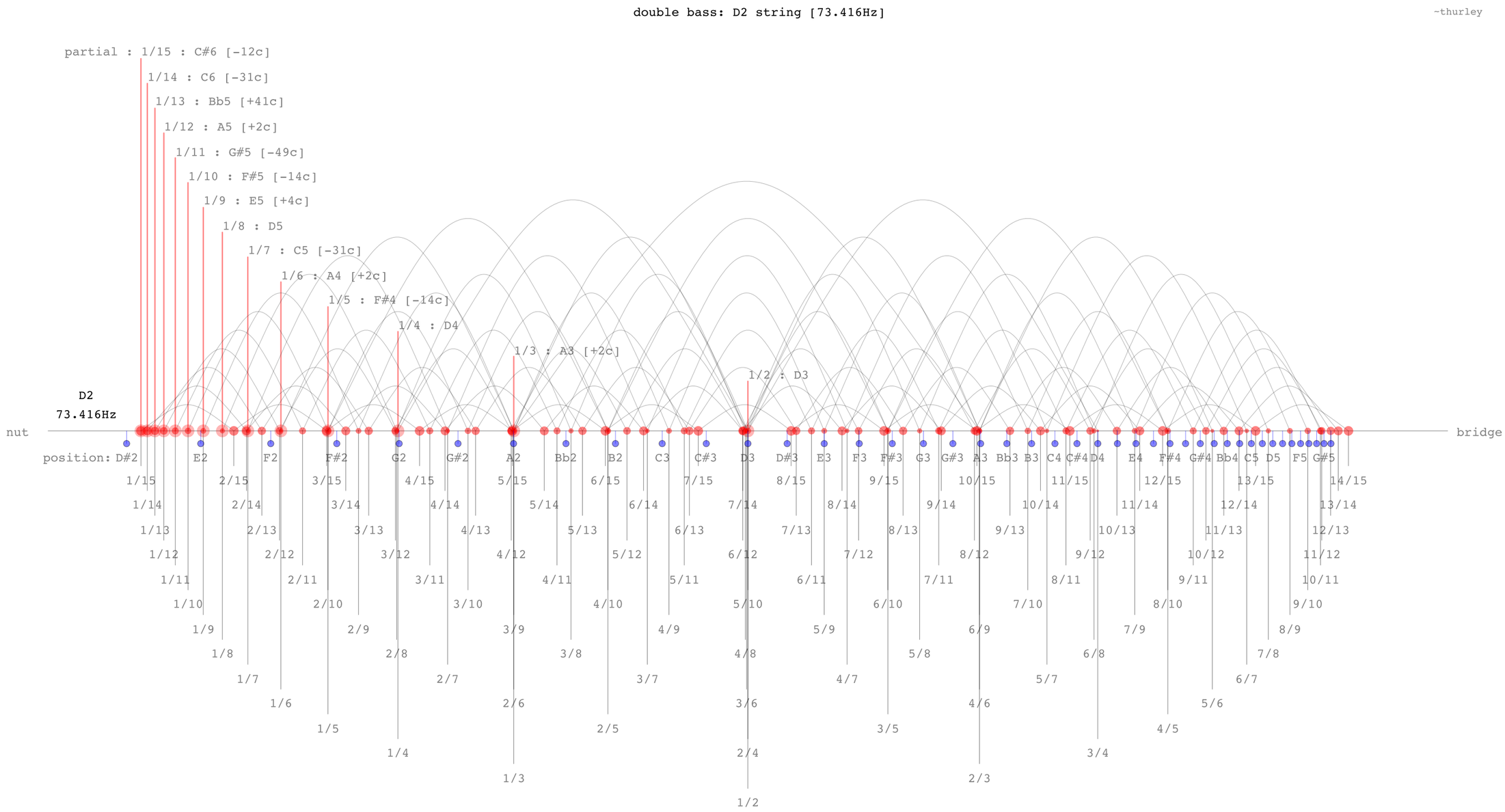
The following charts were drawn up in the process of locating the theoretical harmonic and clustered multiphonic nodal points for the piece. They are included here in case they are of use to the performer in interpreting the score.



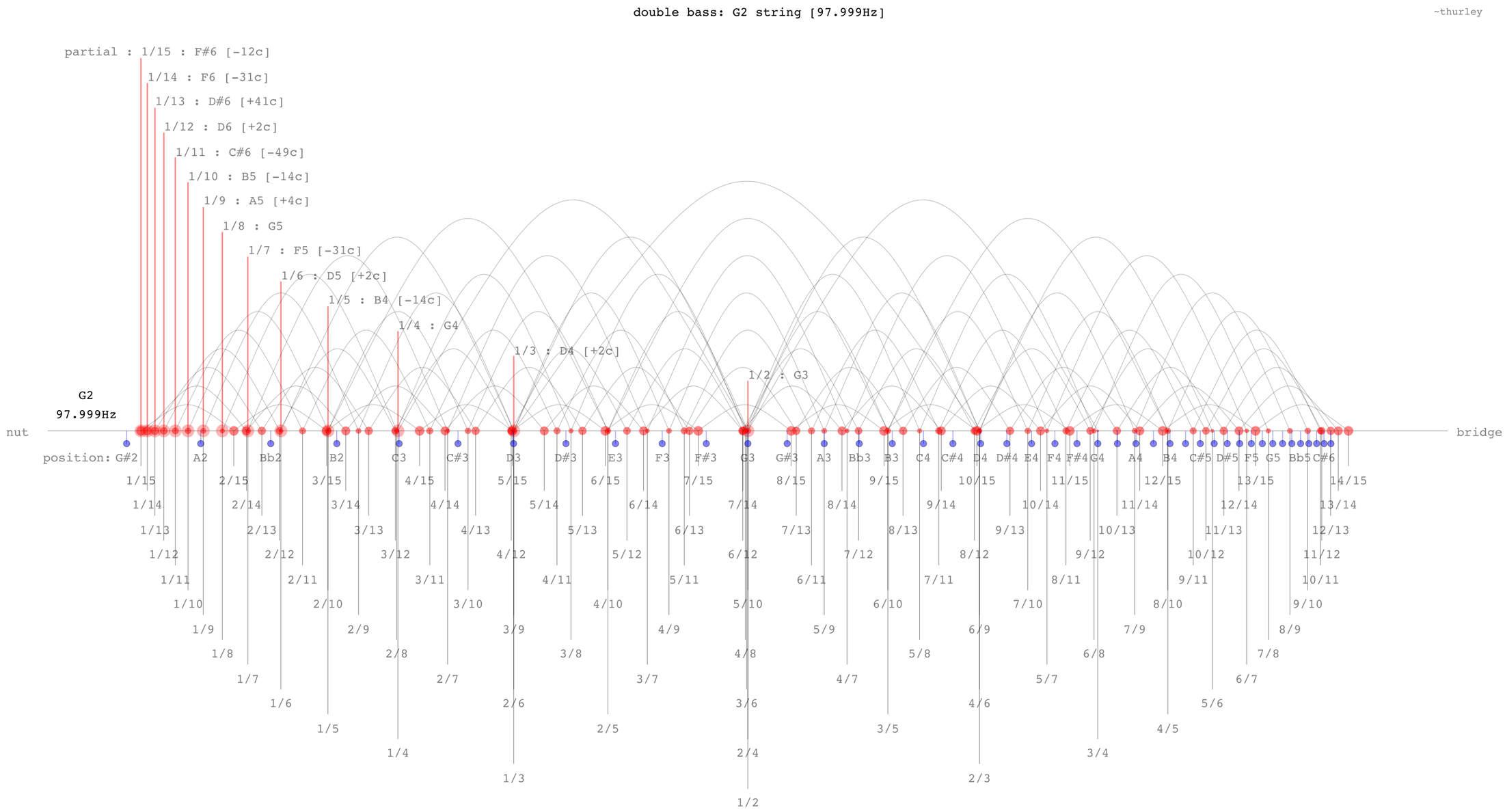
† These charts are derived from the excellent research on 'cello multiphonics by Ellen Fallowfield (cellomap.com).

Φ


double bass: A1 string [55.0Hz]
~thurley
partial : 1/15 : G#5 [-12c]
1/14 : G5 [-31c]
1/13 : F5 [+41c]
1/12 : E5 [+2c]
1/11 : D#5 [-49c]
1/10 : C#5 [-14c]
1/9 : B4 [+4c]
1/8 : A4
1/7 : G4 [-31c]
1/6 : E4 [+2c]
1/5 : C#4 [-14c]
1/4 : A3
1/3 : E3 [+2c]
1/2 : A2
A1
55.0Hz
nut
bridge
position: Bb1 B1 C2 C#2 D2 D#2 E2 F2 F#2 G2 G#2 A2 Bb2 B2 C3 C#3 D3 D#3 E3 F3 F#3 G3 G#3 A3 B3 C#4 D#4 F4 G4 A4 C5 D#5


double bass: D2 string [73.416Hz]
~thurley
partial : 1/15 : C#6 [-12c]
1/14 : C6 [-31c]
1/13 : Bb5 [+41c]
1/12 : A5 [+2c]
1/11 : G#5 [-49c]
1/10 : F#5 [-14c]
1/9 : E5 [+4c]
1/8 : D5
1/7 : C5 [-31c]
1/6 : A4 [+2c]
1/5 : F#4 [-14c]
1/4 : D4
1/3 : A3 [+2c]
1/2 : D3
D2
73.416Hz
nut
bridge
position: D#2 E2 F2 F#2 G2 G#2 A2 Bb2 B2 C3 C#3 D3 D#3 E3 F3 F#3 G3 G#3 A3 Bb3 B3 C4 C#4 D4 E4 F#4 G#4 Bb4 C5 D5 F5 G#5
1/15 2/15 3/15 4/15 5/15 6/15 7/15 8/15 9/15 10/15 11/15 12/15 13/15 14/15
1/14 2/14 3/14 4/14 5/14 6/14 7/14 8/14 9/14 10/14 11/14 12/14 13/14
1/13 2/13 3/13 4/13 5/13 6/13 7/13 8/13 9/13 10/13 11/13 12/13
1/12 2/12 3/12 4/12 5/12 6/12 7/12 8/12 9/12 10/12 11/12
1/11 2/11 3/11 4/11 5/11 6/11 7/11 8/11 9/11 10/11
1/10 2/10 3/10 4/10 5/10 6/10 7/10 8/10 9/10
1/9 2/9 3/9 4/9 5/9 6/9 7/9 8/9
1/8 2/8 3/8 4/8 5/8 6/8 7/8
1/7 2/7 3/7 4/7 5/7 6/7
1/6 2/6 3/6 4/6 5/6
1/5 2/5 3/5 4/5
1/4 2/4 3/4
1/3 2/3
1/2

Ψ


double bass: G2 string [97.999Hz]
~thurley
partial : 1/15 : F#6 [-12c]
1/14 : F6 [-31c]
1/13 : D#6 [+41c]
1/12 : D6 [+2c]
1/11 : C#6 [-49c]
1/10 : B5 [-14c]
1/9 : A5 [+4c]
1/8 : G5
1/7 : F5 [-31c]
1/6 : D5 [+2c]
1/5 : B4 [-14c]
1/4 : G4
1/3 : D4 [+2c]
1/2 : G3
G2
97.999Hz
nut
bridge
position: G#2 A2 Bb2 B2 C3 C#3 D3 D#3 E3 F3 F#3 G3 G#3 A3 Bb3 B3 C4 C#4 D4 D#4 E4 F4 F#4 G4 A4 B4 C#5 D#5 F5 G5 Bb5 C#6
1/15 2/15 3/15 4/15 5/15 6/15 7/15 8/15 9/15 10/15 11/15 12/15 13/15 14/15
1/14 2/14 3/14 4/14 5/14 6/14 7/14 8/14 9/14 10/14 11/14 12/14 13/14
1/13 2/13 3/13 4/13 5/13 6/13 7/13 8/13 9/13 10/13 11/13 12/13
1/12 2/12 3/12 4/12 5/12 6/12 7/12 8/12 9/12 10/12 11/12
1/11 2/11 3/11 4/11 5/11 6/11 7/11 8/11 9/11 10/11
1/10 2/10 3/10 4/10 5/10 6/10 7/10 8/10 9/10
1/9 2/9 3/9 4/9 5/9 6/9 7/9 8/9
1/8 2/8 3/8 4/8 5/8 6/8 7/8
1/7 2/7 3/7 4/7 5/7 6/7
1/6 2/6 3/6 4/6 5/6
1/5 2/5 3/5 4/5
1/4 2/4 3/4
1/3 2/3
1/2