# Trends

**from the**

## Periodic Table of Elements

**a suite**
**for piano solo**

**Peter McKenzie Armstrong**

**Opus 31**

*Edition Ottaviano Petrucci*

# NOTES

## SOURCE DATA

**Periodic Table:** These movements each trace, in atomic–number order through the 118 known elements, the values of one of fifteen properties, correctly termed "trends":

1. Enthalpy–Vapor.
2. MeltingPoint
3. Density
4. Electronegativity
5. AtomicRadius
6. Enthalpy–Fusion
7. BoilingPoint
8. Orbitals
9. OxidaState–Min
10. IonicRadius
11. ElectronAffinity
12. IonizationPotential
13. AtomicWeight
14. OxidaState (Gaps)
15. Isotopes

## COMPOSITION

**Generation:** Each data series was scaled and rounded, first to index 6 octaves of keyboard pitch, separately to index 16 levels of duration. The elements of each resulting monophonic series were then cardinally/ordinally swapped, yielding an "opposite" series embracing simultaneity.

**Section pairing:** In the final score, some but not all of the value/index swapped sections directly abutt their monophonic counterparts. I have repositioned some for better pattern contrast.

## PERFORMANCE

**Rhythm:** The elapsed time between successive note–beginnings is proportional to the horizontal space between the noteheads. The individual note's sounding duration is proportional instead to its notehead size –– but flexibly so, as each of the (5) sizes embodies any of several close values from the generated set.

**Articulation:** Notes are to be separated by articulative silence *unless* a slur connects them. Within a slur legato applies up to, but not beyond, its final note. Other marks (spiccato, tenuto) are meant to nuance, not contradict, the above. Diagonal lines between staves are meant to extend slurs across the system.

**Pedaling:** Where, as often, the hand cannot manage legato connection, slurs are to be interpreted as pedal indications. The pedal is to be used only in this way – not also to connect between slurs.

**Dynamics:** Volume is generally to parallel duration, that is, note–head size, unless qualified by accent.

**Superclusters:** As I have chosen to include all pitches initially generated, the lower (swapped–parameter) sections contain chords of up to 29 pitches! The player is humbly invited to edit (roll/break/trim) these at his/her discretion.

Duration: 12.6 minutes

– PMA

*in memoriam Dmitri Mendeleev*

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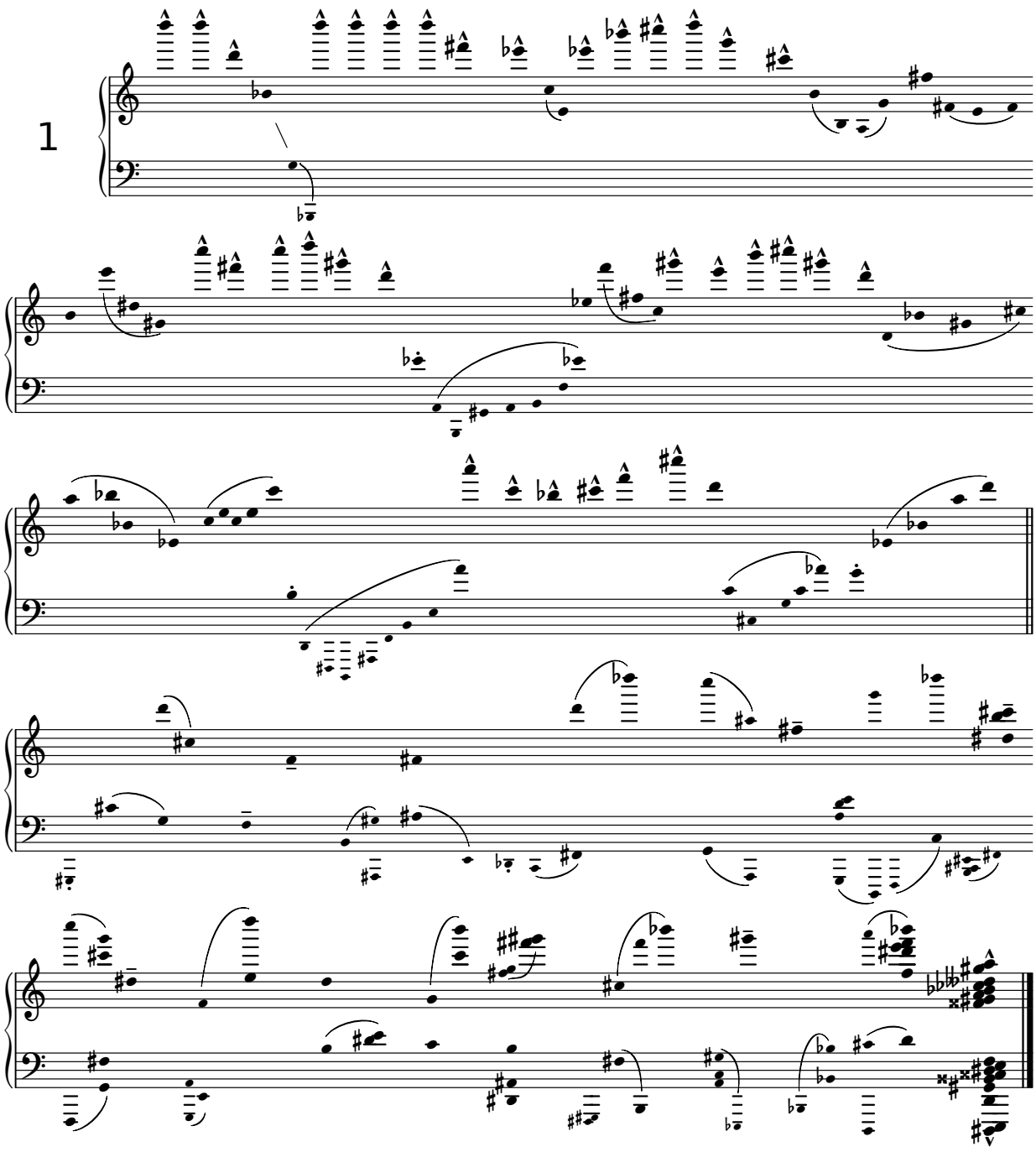
## Periodic Table of Elements

**for solo piano**

Peter McKenzie Armstrong
Opus 31

## Enthalpy-V

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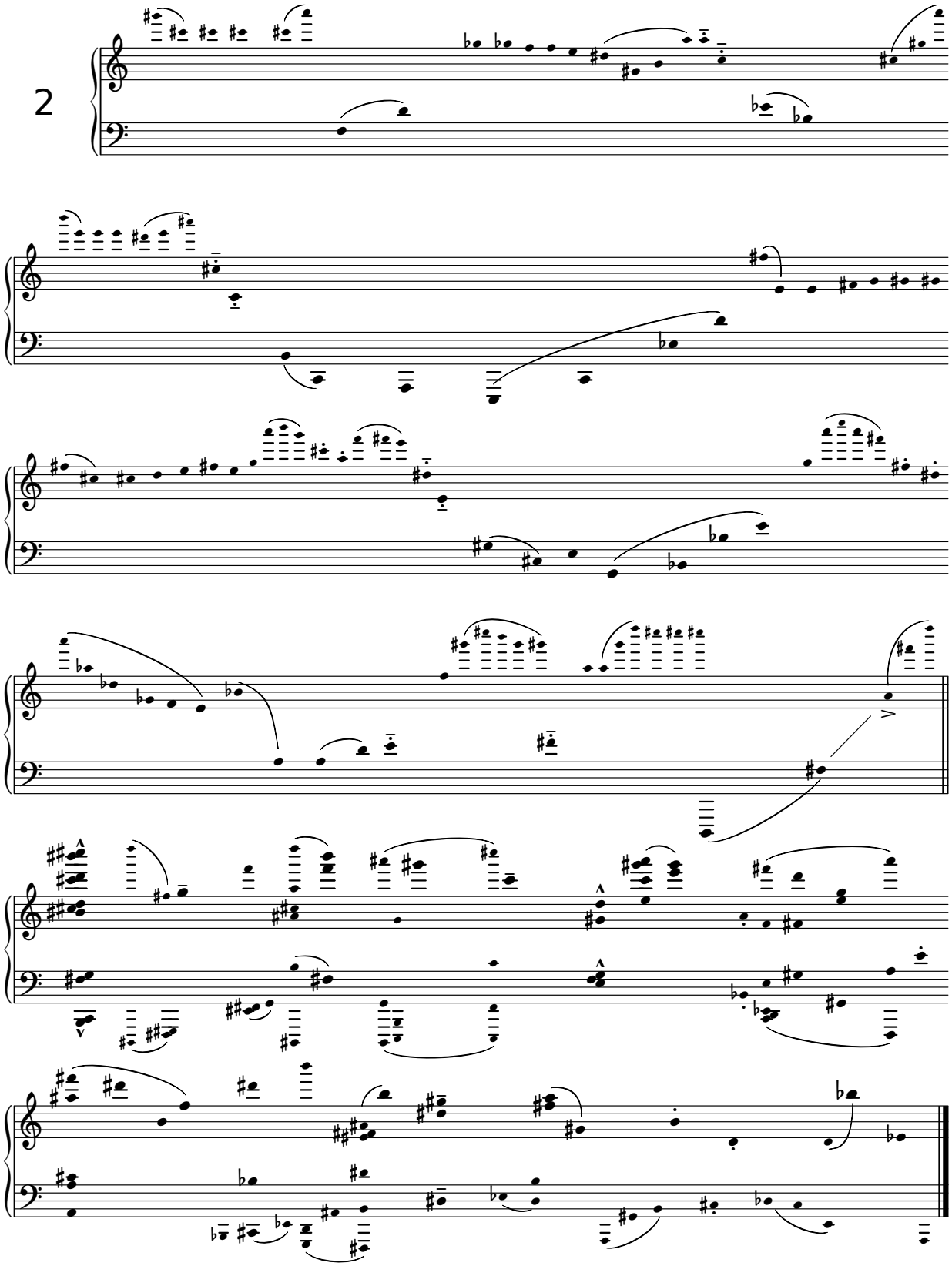
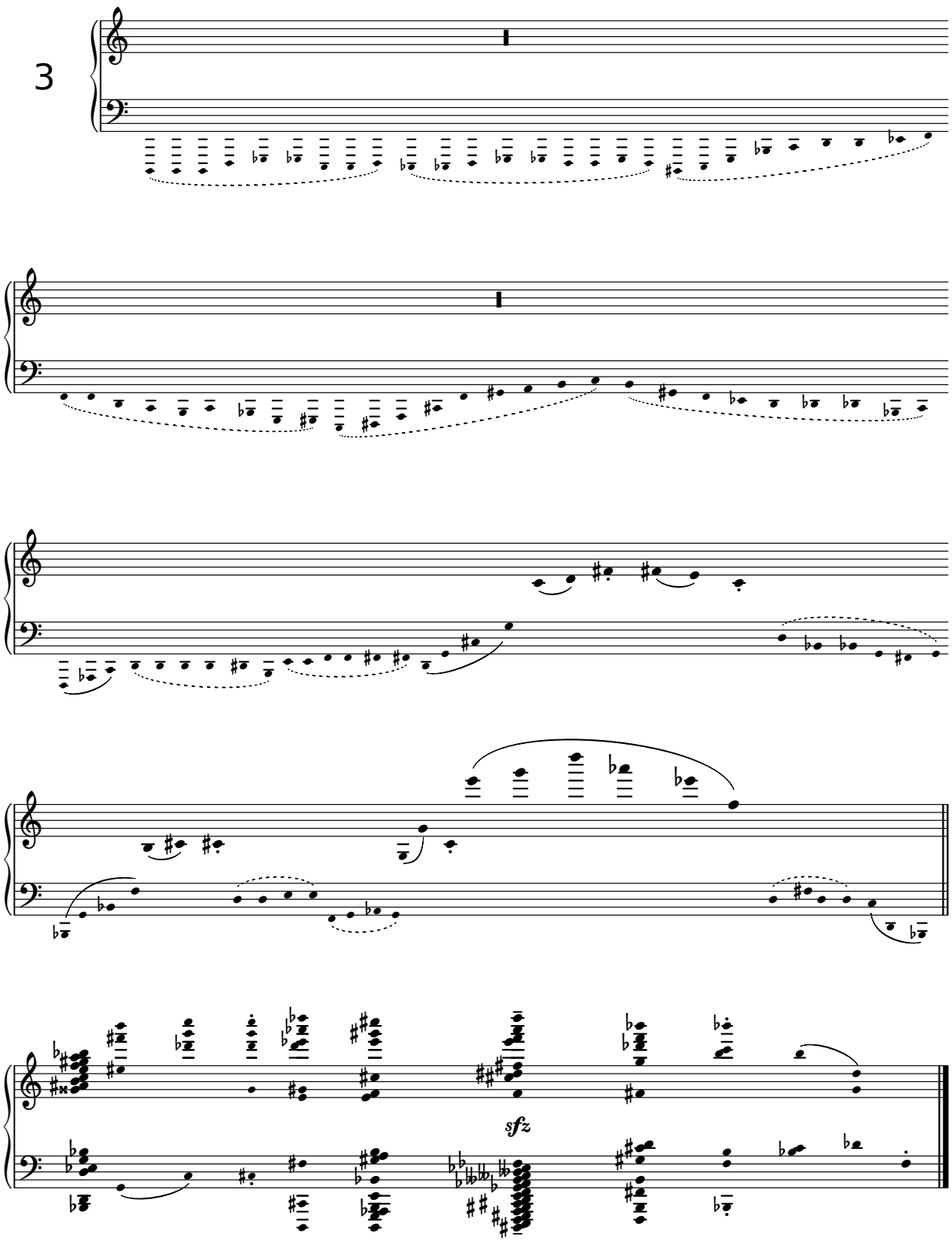
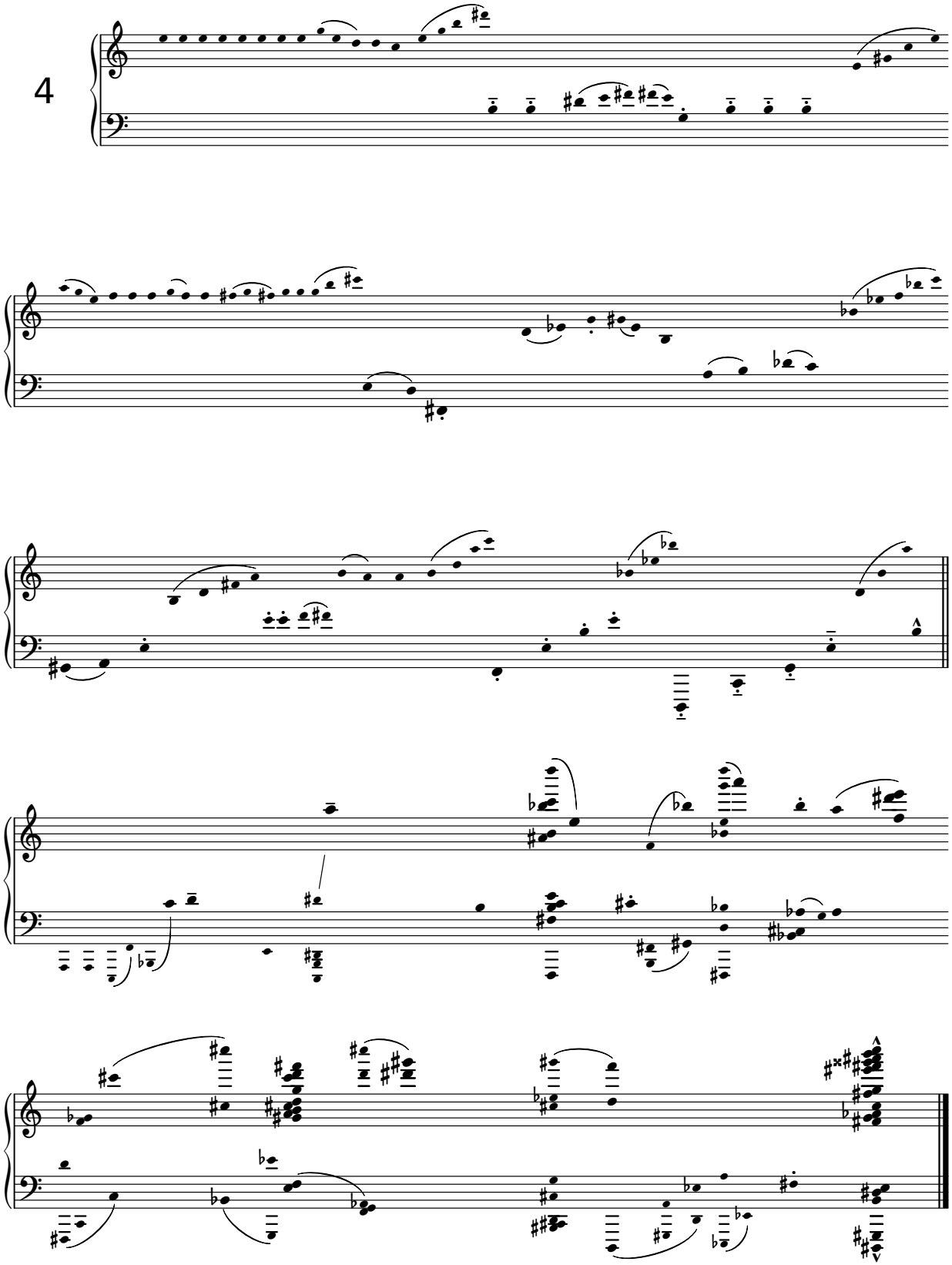
# Melting-Pt



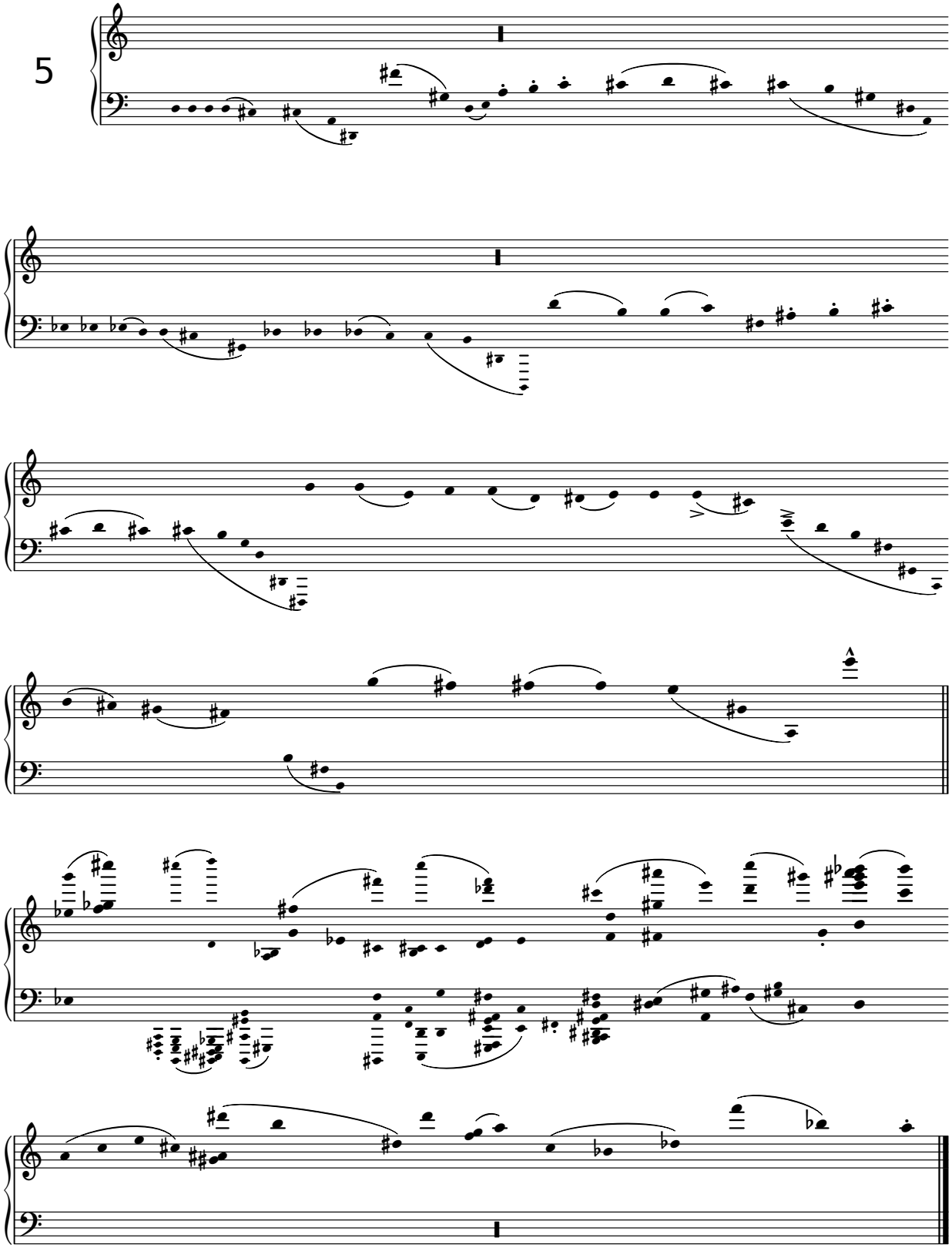
# Density



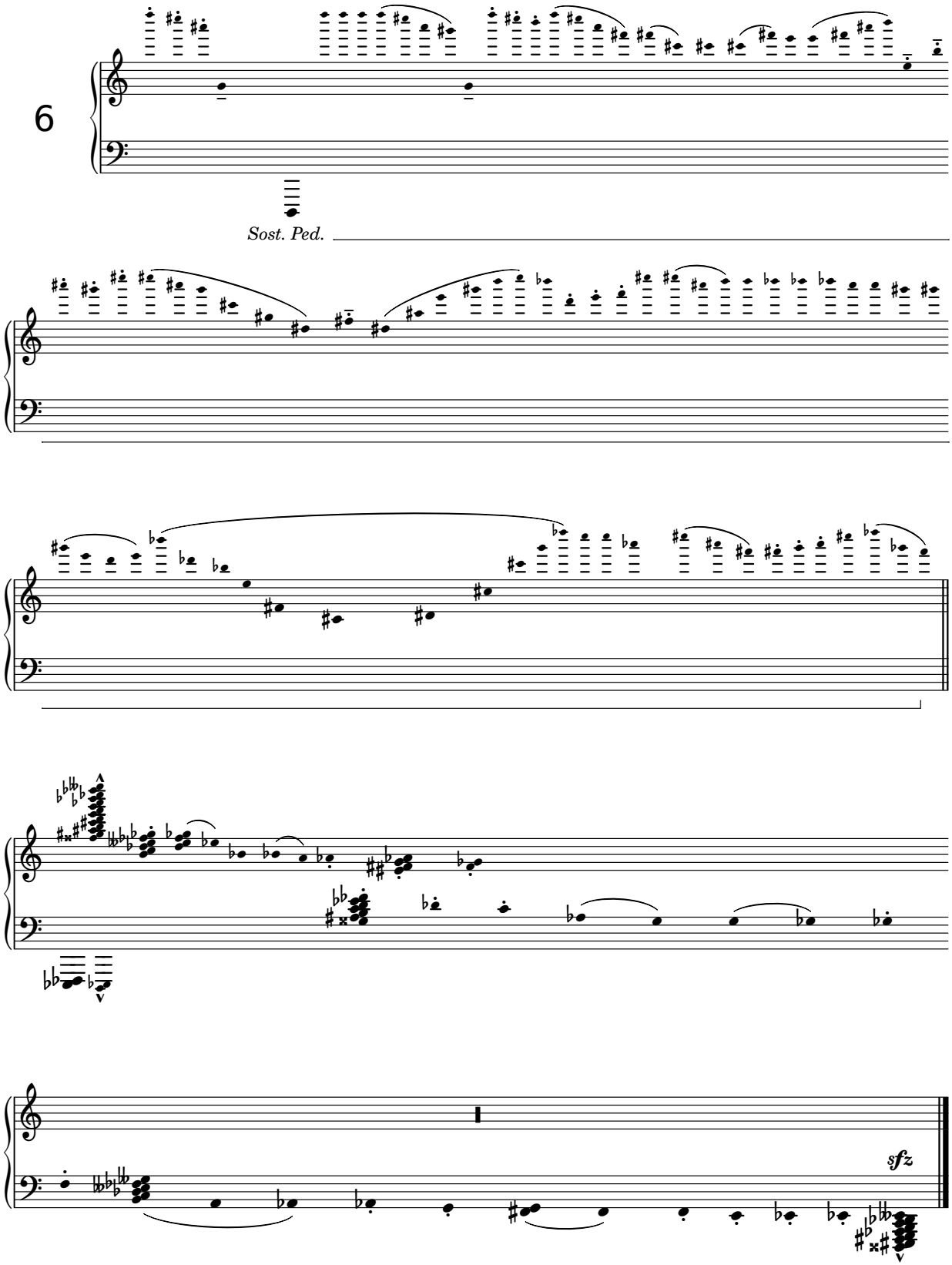
# Electroneg



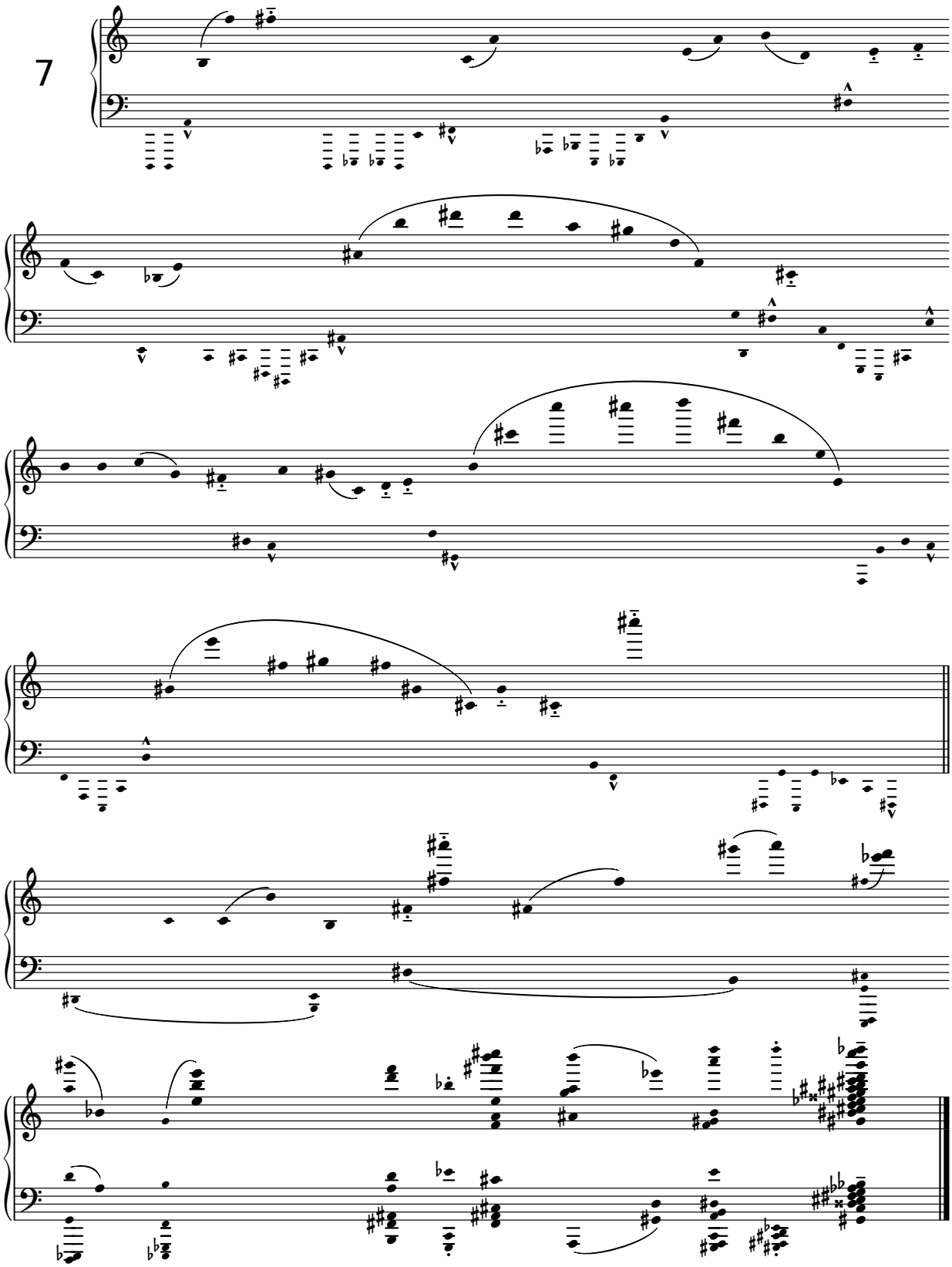
# A-Radius



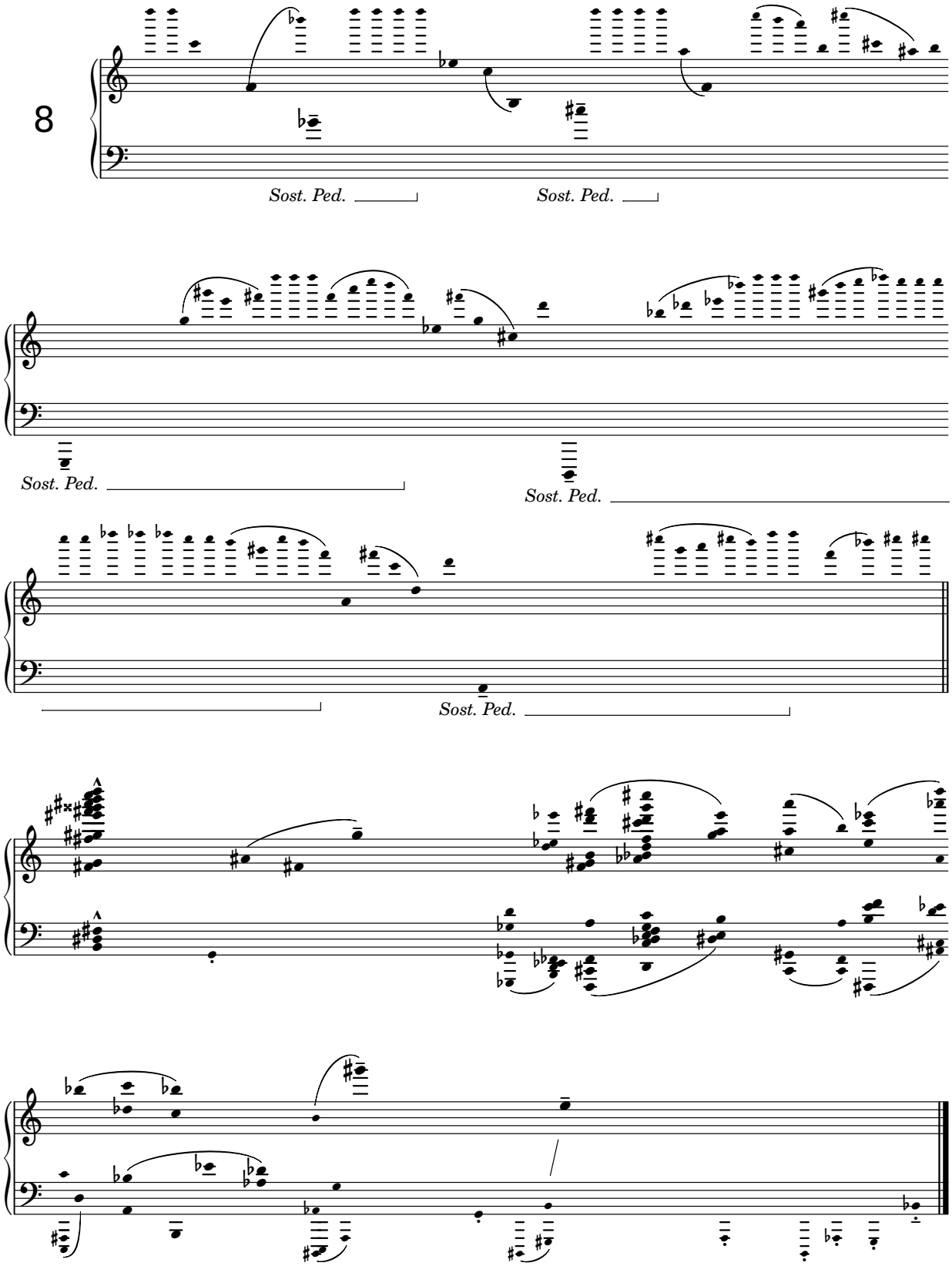
# Enthalpy-F



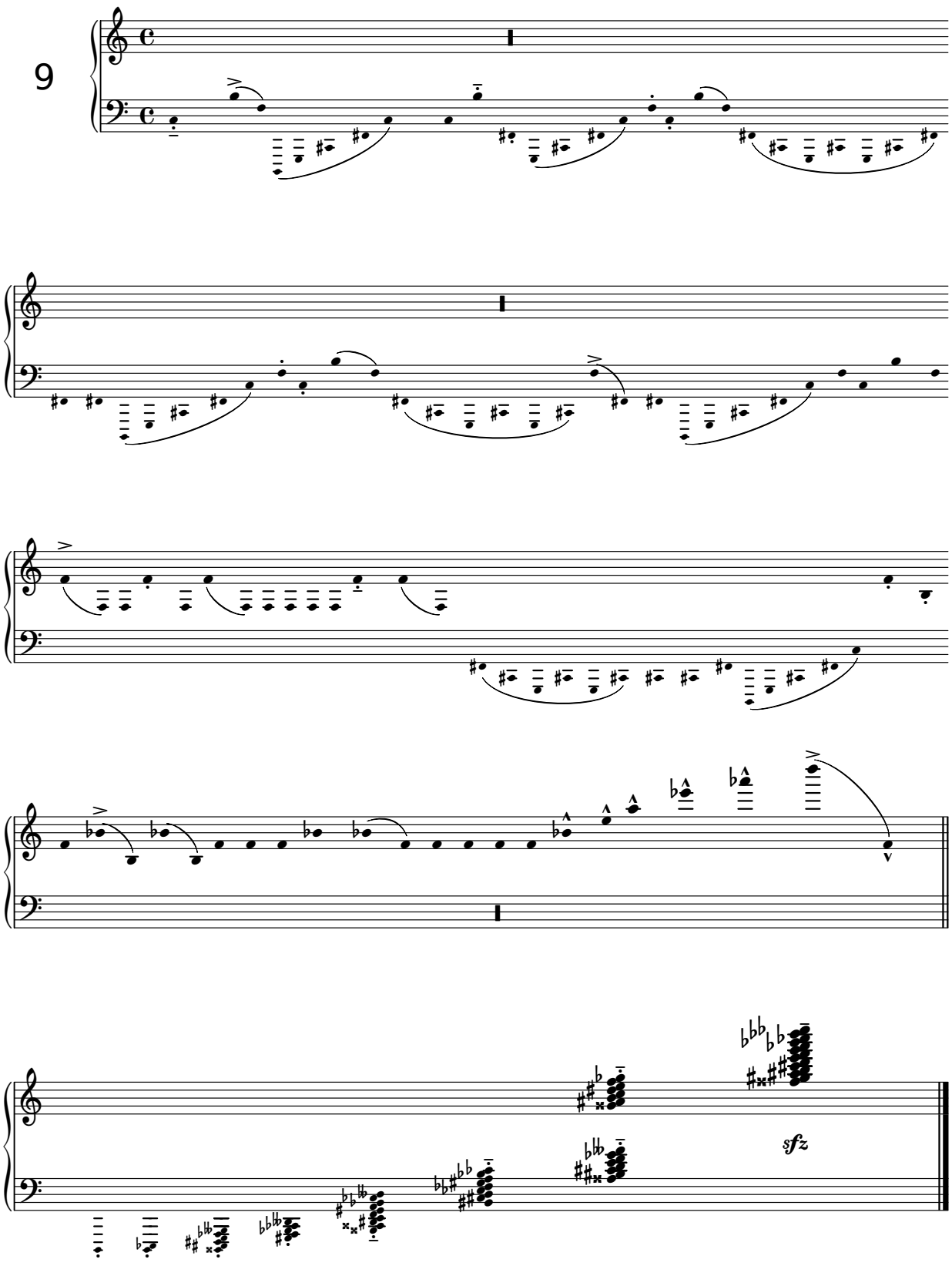
# Boiling-Pt



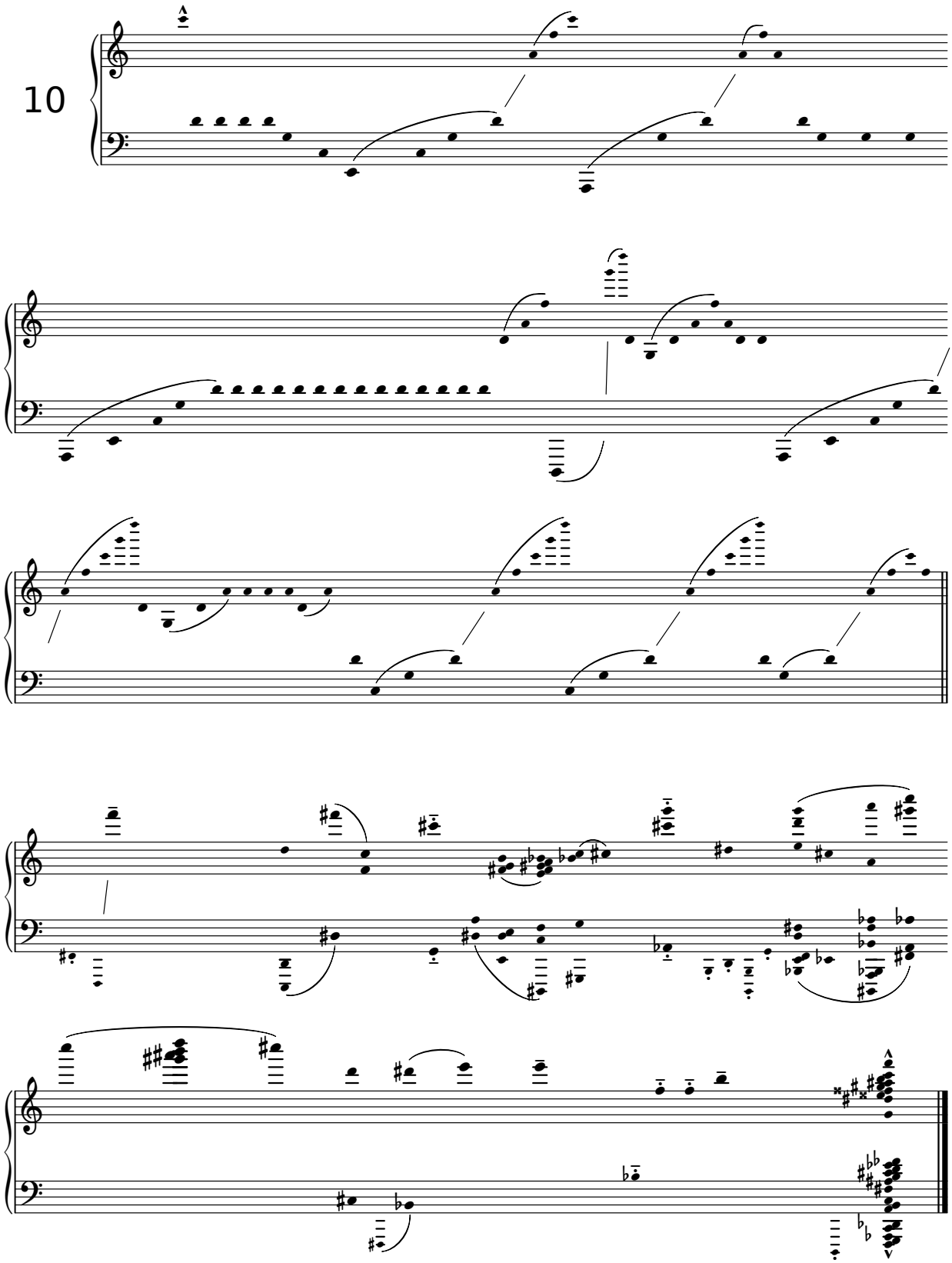
# Orbitals



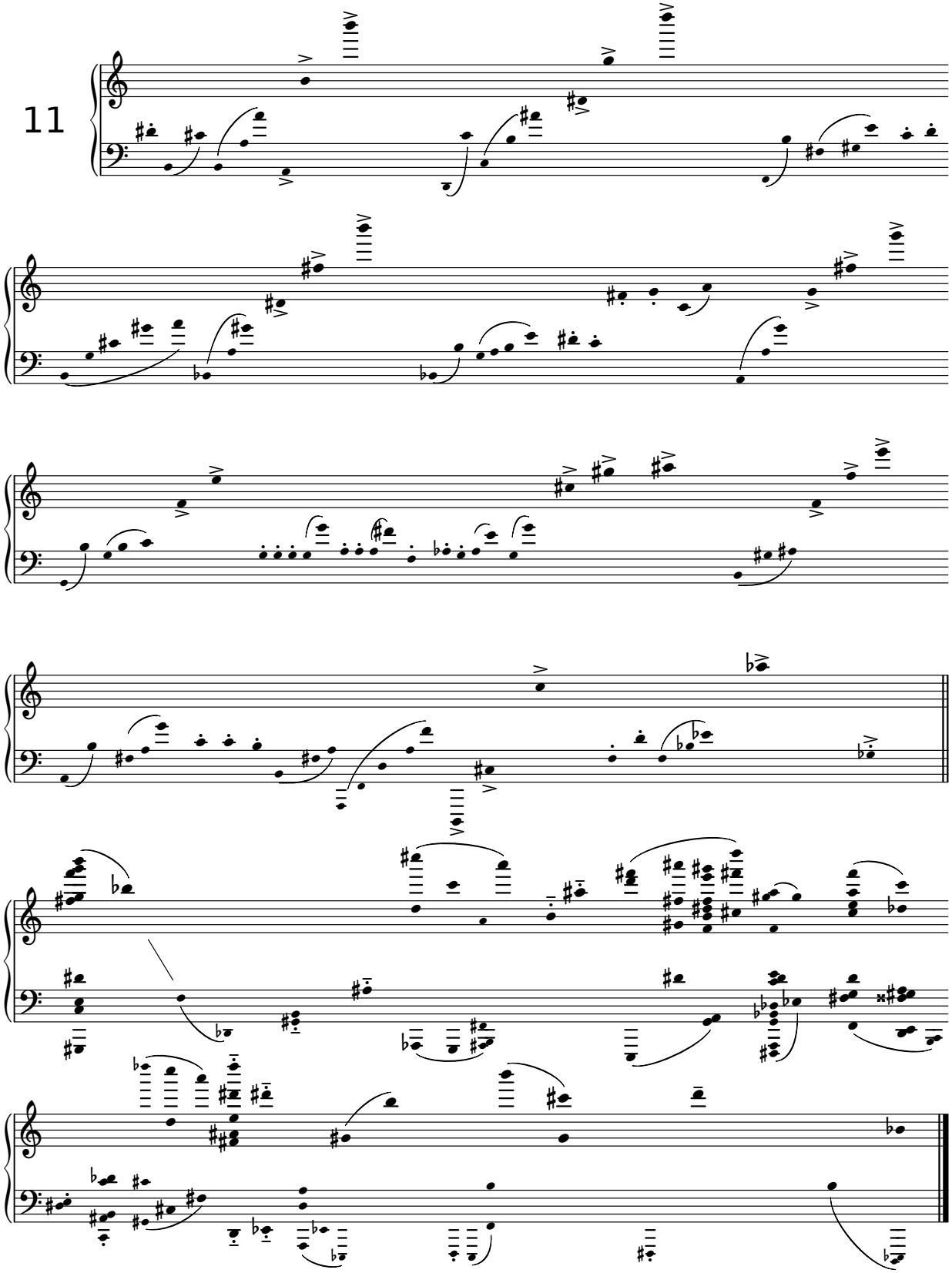
# Oxi-State Min



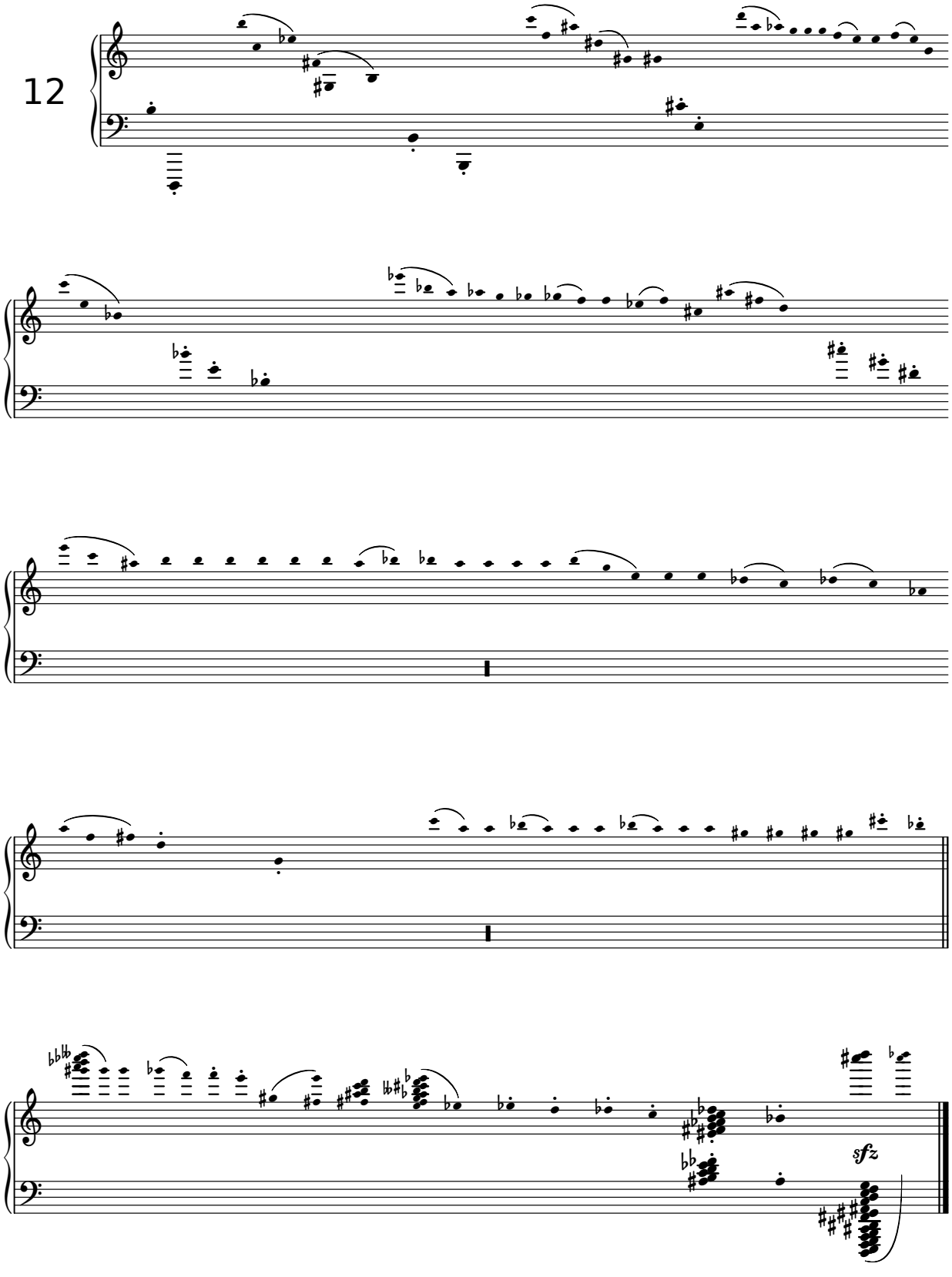
# I-Radius



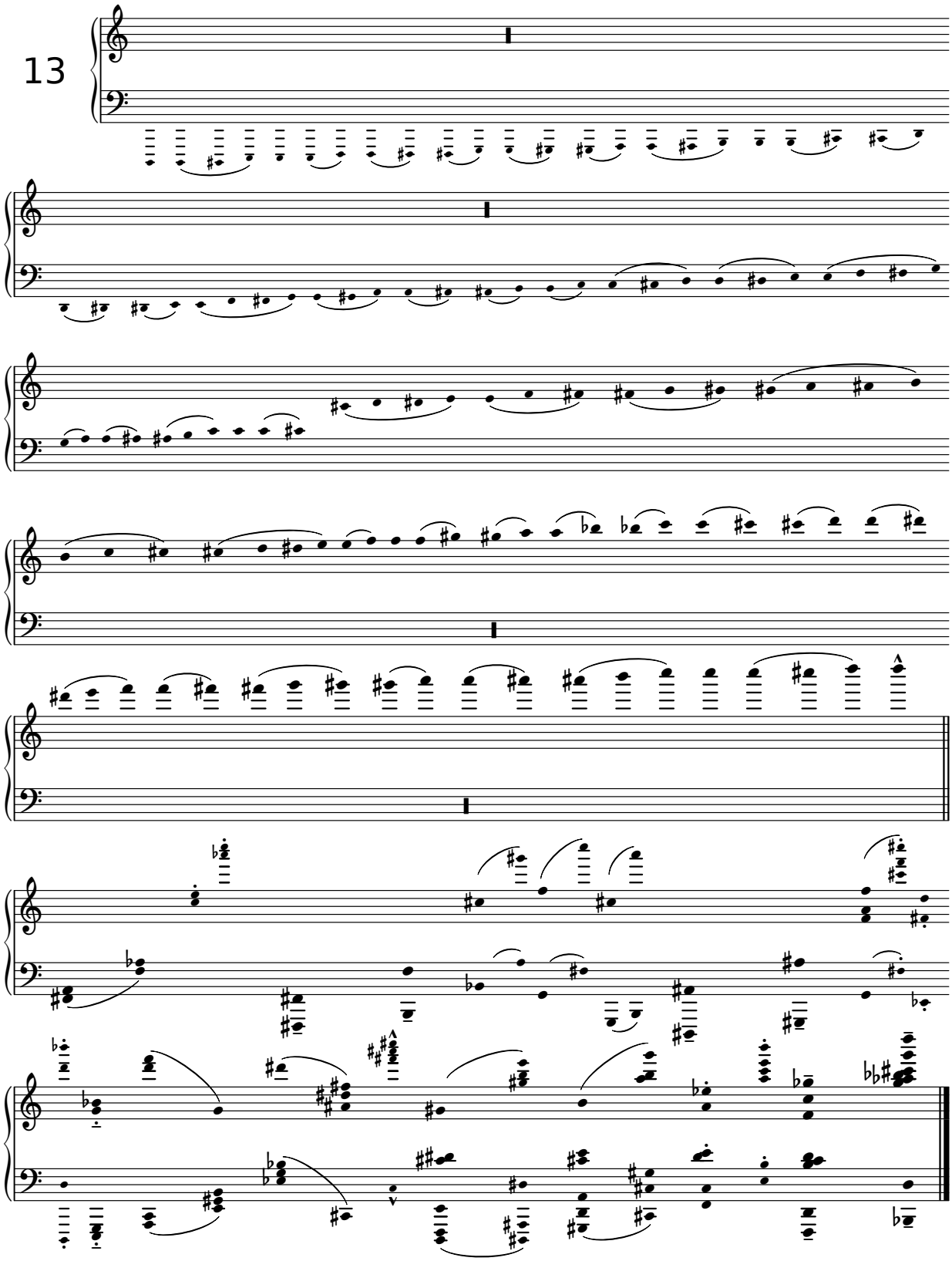
# Elec-Affin



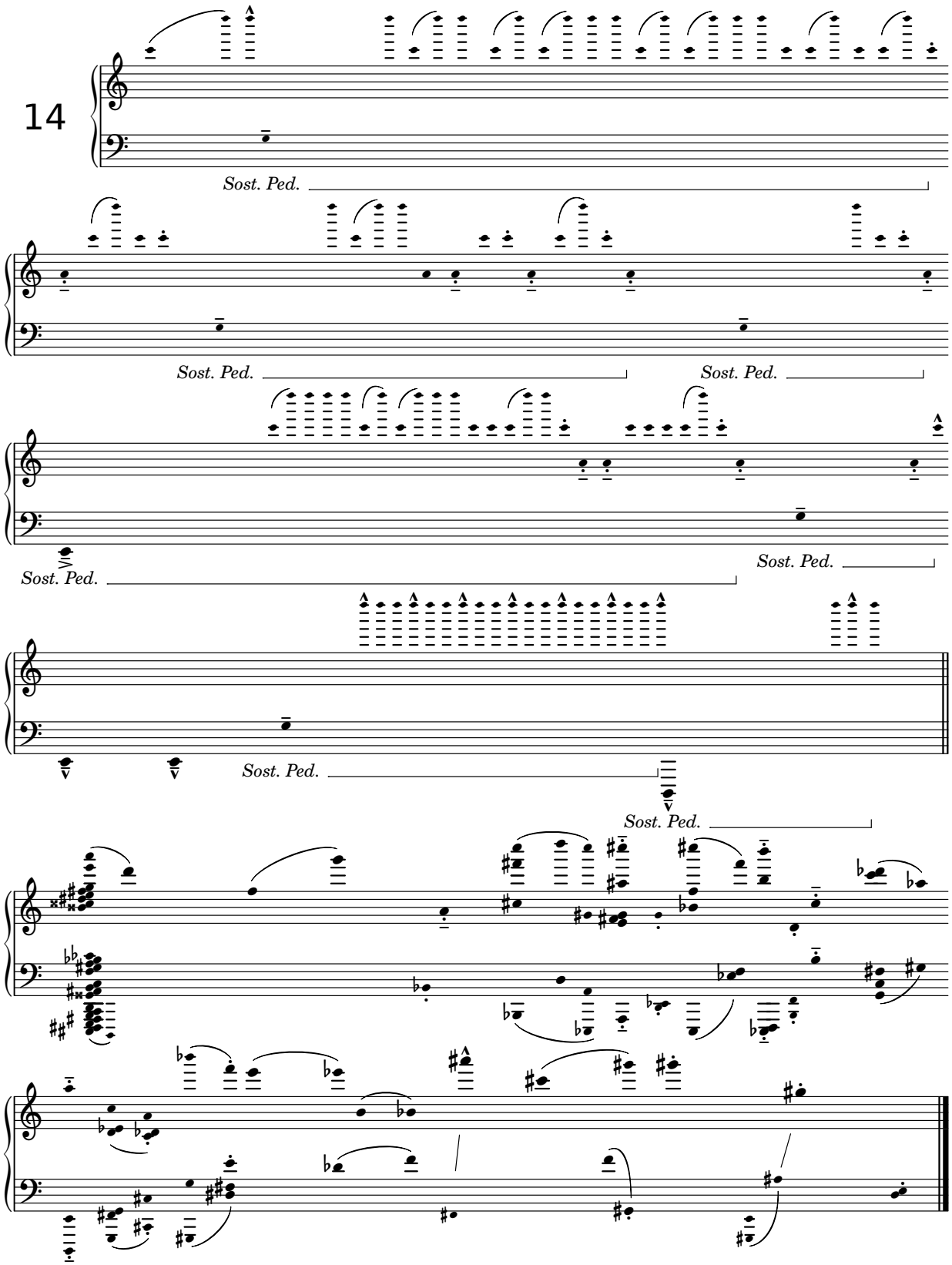
# Ioniz-Poten



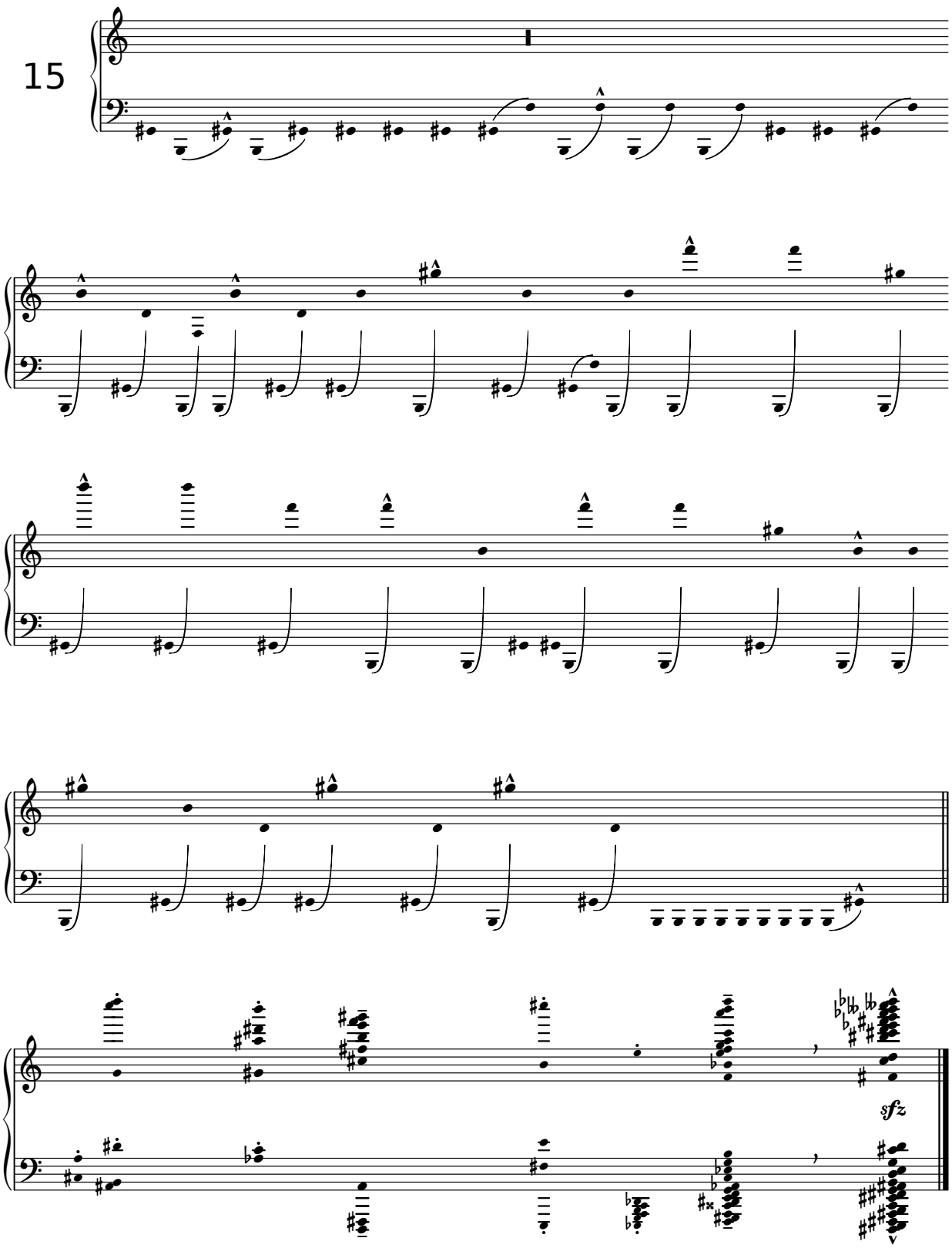
# A-Weight



# Oxi-State Gaps



# Isotopes

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