

William Kleinsasser

Polymer Thread

for improvising instrument with computer processing

(2011)

Duration: c. 15 minutes

For Dave Ballou

PERFORMANCE NOTES

Instrumentation

improvising instrument

computer processing using composer-developed Max/MSP software entitled "Spectral Prism Polymer" is used throughout as an expansion on the sound of the acoustic instrument. See note below.

To use the software, a close-position microphone is used for the improvising instrument ideally with no pickup of instruments other than the improvisor.

Notation Details

Accidentals apply to all notes of that pitch class regardless of octave and are cancelled by bar lines.

Rhythm in this score is notated using proportional notation[1] in which complex rhythmic events are notated across a graphic measure without traditional symblic durational notation. This notation is intended to represent complex, subtly non-synchronized event timing without overly complex notational symbols.

[1] In order to simplify the production of this form of notation, the composer commissioned Tobias Giesen to create a Finale software Plug-in that converted complex rhythmic patterns into simplified, proportional, beamed notation. This plug-in is now part of the TG Tools plug-ins for Finale software available from Tobias Giesen (www.tgtools.de).

ABOUT THE MUSIC

About this piece the composer writes: *Polymer Thread* for freely improvising instrument and computer was composed in 2011 for Dave Ballou. It is a fifth iteration through the design of *Innocent Proteins*, which was composed between 2001-2003.

Interconnections with other compositions

The composition, and its related works, *Innocent Proteins*, *Protean Profile*, *Gossamer*, and *Folded Gossamer*, are part of a larger set of pieces made from an original set of three pieces, entitled *Triptych*, which presents an expanded design based on the musical expression of beginning, continuation, and endingand can either be performed independently or together with the other pieces. *Polymer Threads* presents one of (at the time of its composition) five paths through the second piece in *Triptych* and thus expresses musical continuation as an underlying metaphor. This metaphor is also expressed in the musical rethinking and redevelopment of several previous works composed for Daniel Koppelman and Ruth Neville over the past several decades (*Spiral* (1986), *Free Shadows* (1994), and *Available Instruments* (1998)). In addition to its connections to *Triptych*, *Gossamer*, and *Folded Gossamer*, the computer music in this piece is composed from elements taken from the composer's work for symphony orchestra entitled *Many Rivers* (2010). *Polymer Threads* is similar to *Gossamer* just as *Protean Profile* is related to *Innocent Proteins* in that it is a reconsideration of the work with an added element of computer music that is connected to the acoustic ensemble of the original *Gossamer*. In *Polymer Thread* the music of *Gossamer* is realized in the computer music allowing the piece to be performed as a solo work by a single instrumentalist.

The Musical Design

Unlike *Innocent Proteins* and *Protean Profile*, which are composed of repeating phrases following classic rhetorical models that control repetition and presentation of new ideas, the composed parts of *Polymer Thread* (and its related pieces *Gossamer* and *Folded Gossamer*) are made as a set of through-composed continuous variations providing a musical space, field, or context for the discursive improvisation by the solo improvising instrument.

The Computer Processing

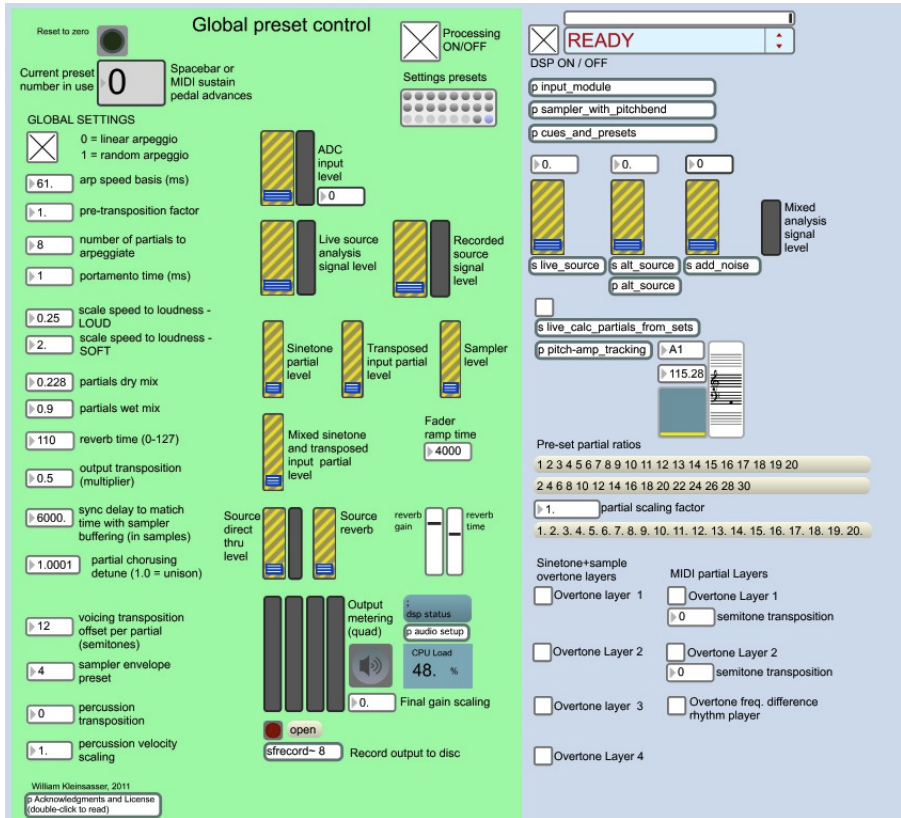
In performance, the software tracks the pitches played by the improvising soloist (using Miller Puckette's sigmund~ Max/MSP external object) and creates synthesized harmonic and non-harmonic partial arpeggiation layers and a pre-composed MIDI sequence layer that track the pitch inflections of teh soloist and respond in kind. These layers are mixed in a quadraphonic speaker array around the audience with the slightly-amplified solist performance. The balance should result in a fully-integrated layering of sound without obscuring the acoustic instrument, which can be slightly amplified and mixed into the quad speakers along with the computer music.

Acknowledgements and Attributions

SPECTRAL PRISM POLYMER PERFORMANCE SOFTWARE is based on standard-issue Max/MSP objects with the exception of the NewVerb by Richard Dudas and sigmund~ by Miller Puckette.

SPECTRAL PRISM POLYMER PERFORMANCE SOFTWARE owes to the following Max/MSP developers who have offered models and suggestions during development: The sampler and buffer playback approaches are modifications based on Les Stuck's anticlick and anticlick-voice sampling examples in the Max/MSP distribution. The reverb module is based on Richard Dudas' NewVerb external with modification including addition of buffer clearing and NAN protection using Joshua Kit Clayton's bitsafe~ object.

Samples percussion, bass, piano, and electric guitar are from the Community Audio Open Source Library. Other samples of piano are from samples made and shared by Soeren Bovbjerg [<http://www.hum.aau.dk/~bovbjerg/piano.html>]. These recordings are used with permission by these creators for a composition context such as this but are not to be used for general sampling outside o fthe context of this use.



SCORE IN C

Polymer Thread

William Kleinsasser
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Solist improvises completely freely throughout with pauses as determined by the improviser playing with and/or against the musical context of the computer. The notation, which can be disregarded, indicates pitches of the composite computer pre-recorded MIDI sequence is playing during each measure (some octaves removed for clarity). The computer also adds layers of overtone spectral synthesis based on the pitches and dynamics played by the soloist. An additional percussive layer can also be included in the computer, which plays rhythms based on the ratios of the synthesized overtones.

For Dave Ballou

$\frac{3}{4}$ ♩ = 20 (time is felt by the bar, in one)

Improvising Instrument

Computer MIDI sequence

1

2

3

Impro. Instr.

Computer MIDI seq.

4

5

6

Impro. Instr.

Computer MIDI seq.

7

8

9

The musical score consists of two staves. The top staff is labeled 'Improv. Instr.' and the bottom staff is labeled 'Computer MIDI seq.'. The score is divided into three measures, numbered 10, 11, and 12 at the bottom. Measure 10 shows a melodic line in the top staff and a corresponding line in the bottom staff. Measure 11 continues the melodic development. Measure 12 features a more complex melodic line in the top staff and a corresponding line in the bottom staff, with a final cadence. The notation includes various musical symbols such as notes, rests, and bar lines.

The image displays a musical score for two parts: 'Improv. Instr.' (Improvised Instrument) and 'Computer MIDI seq.' (Computer MIDI sequence). The score is presented in two systems, with measures 13, 14, and 15 visible. The 'Improv. Instr.' part is written on a single staff with a treble clef, while the 'Computer MIDI seq.' part is written on a single staff with a bass clef. The music is in 4/4 time and features a key signature of one sharp (F#). The 'Improv. Instr.' part consists of a melodic line with various accidentals and rests. The 'Computer MIDI seq.' part consists of a bass line with various accidentals and rests. The measures are numbered 13, 14, and 15 at the bottom of the score.

The image shows a musical score with two staves. The top staff is labeled 'Improv. Instr.' and the bottom staff is labeled 'Computer MIDI seq.'. Both staves are in treble clef. The music is written in a key with one sharp (F#) and a common time signature. The score is divided into three measures, numbered 16, 17, and 18 at the bottom. The notation includes various note values, rests, and accidentals. A dashed line is present between the two staves in measure 16.

Figure 10 is a comparison of improvisation and computer-generated MIDI sequence. It consists of two staves: 'Improv. Instr.' (top) and 'Computer MIDI seq.' (bottom). The 'Improv. Instr.' staff shows a sequence of notes with a dashed line indicating a continuation of the sequence. The 'Computer MIDI seq.' staff shows a sequence of notes with a dashed line indicating a continuation of the sequence. The figure is divided into three sections labeled 19, 20, and 21.

The image displays a musical score for two parts: *Improv. Instr.* (Improvised Instrument) and *Computer MIDI seq.* (Computer MIDI sequence). The score is organized into three measures, labeled 22, 23, and 24 at the bottom.

Measure 22: The *Improv. Instr.* part begins with a treble clef and a key signature of one sharp (F#). The first staff shows a sequence of notes: F#4, G#4, A4, B4, C5, D5, E5, F#5, G#5, A5, B5, C6, D6, E6, F#6, G#6, A6, B6, C7, D7, E7, F#7, G#7, A7, B7, C8, D8, E8, F#8, G#8, A8, B8, C9, D9, E9, F#9, G#9, A9, B9, C10, D10, E10, F#10, G#10, A10, B10, C11, D11, E11, F#11, G#11, A11, B11, C12, D12, E12, F#12, G#12, A12, B12, C13, D13, E13, F#13, G#13, A13, B13, C14, D14, E14, F#14, G#14, A14, B14, C15, D15, E15, F#15, G#15, A15, B15, C16, D16, E16, F#16, G#16, A16, B16, C17, D17, E17, F#17, G#17, A17, B17, C18, D18, E18, F#18, G#18, A18, B18, C19, D19, E19, F#19, G#19, A19, B19, C20, D20, E20, F#20, G#20, A20, B20, C21, D21, E21, F#21, G#21, A21, B21, C22, D22, E22, F#22, G#22, A22, B22, C23, D23, E23, F#23, G#23, A23, B23, C24, D24, E24, F#24, G#24, A24, B24, C25, D25, E25, F#25, G#25, A25, B25, C26, D26, E26, F#26, G#26, A26, B26, C27, D27, E27, F#27, G#27, A27, B27, C28, D28, E28, F#28, G#28, A28, B28, C29, D29, E29, F#29, G#29, A29, B29, C30, D30, E30, F#30, G#30, A30, B30, C31, D31, E31, F#31, G#31, A31, B31, C32, D32, E32, F#32, G#32, A32, B32, C33, D33, E33, F#33, G#33, A33, B33, C34, D34, E34, F#34, G#34, A34, B34, C35, D35, E35, F#35, G#35, A35, B35, C36, D36, E36, F#36, G#36, A36, B36, C37, D37, E37, F#37, G#37, A37, B37, C38, D38, E38, F#38, G#38, A38, B38, C39, D39, E39, F#39, G#39, A39, B39, C40, D40, E40, F#40, G#40, A40, B40, C41, D41, E41, F#41, G#41, A41, B41, C42, D42, E42, F#42, G#42, A42, B42, C43, D43, E43, F#43, G#43, A43, B43, C44, D44, E44, F#44, G#44, A44, B44, C45, D45, E45, F#45, G#45, A45, B45, C46, D46, E46, F#46, G#46, A46, B46, C47, D47, E47, F#47, G#47, A47, B47, C48, D48, E48, F#48, G#48, A48, B48, C49, D49, E49, F#49, G#49, A49, B49, C50, D50, E50, F#50, G#50, A50, B50, C51, D51, E51, F#51, G#51, A51, B51, C52, D52, E52, F#52, G#52, A52, B52, C53, D53, E53, F#53, G#53, A53, B53, C54, D54, E54, F#54, G#54, A54, B54, C55, D55, E55, F#55, G#55, A55, B55, C56, D56, E56, F#56, G#56, A56, B56, C57, D57, E57, F#57, G#57, A57, B57, C58, D58, E58, F#58, G#58, A58, B58, C59, D59, E59, F#59, G#59, A59, B59, C60, D60, E60, F#60, G#60, A60, B60, C61, D61, E61, F#61, G#61, A61, B61, C62, D62, E62, F#62, G#62, A62, B62, C63, D63, E63, F#63, G#63, A63, B63, C64, D64, E64, F#64, G#64, A64, B64, C65, D65, E65, F#65, G#65, A65, B65, C66, D66, E66, F#66, G#66, A66, B66, C67, D67, E67, F#67, G#67, A67, B67, C68, D68, E68, F#68, G#68, A68, B68, C69, D69, E69, F#69, G#69, A69, B69, C70, D70, E70, F#70, G#70, A70, B70, C71, D71, E71, F#71, G#71, A71, B71, C72, D72, E72, F#72, G#72, A72, B72, C73, D73, E73, F#73, G#73, A73, B73, C74, D74, E74, F#74, G#74, A74, B74, C75, D75, E75, F#75, G#75, A75, B75, C76, D76, E76, F#76, G#76, A76, B76, C77, D77, E77, F#77, G#77, A77, B77, C78, D78, E78, F#78, G#78, A78, B78, C79, D79, E79, F#79, G#79, A79, B79, C80, D80, E80, F#80, G#80, A80, B80, C81, D81, E81, F#81, G#81, A81, B81, C82, D82, E82, F#82, G#82, A82, B82, C83, D83, E83, F#83, G#83, A83, B83, C84, D84, E84, F#84, G#84, A84, B84, C85, D85, E85, F#85, G#85, A85, B85, C86, D86, E86, F#86, G#86, A86, B86, C87, D87, E87, F#87, G#87, A87, B87, C88, D88, E88, F#88, G#88, A88, B88, C89, D89, E89, F#89, G#89, A89, B89, C90, D90, E90, F#90, G#90, A90, B90, C91, D91, E91, F#91, G#91, A91, B91, C92, D92, E92, F#92, G#92, A92, B92, C93, D93, E93, F#93, G#93, A93, B93, C94, D94, E94, F#94, G#94, A94, B94, C95, D95, E95, F#95, G#95, A95, B95, C96, D96, E96, F#96, G#96, A96, B96, C97, D97, E97, F#97, G#97, A97, B97, C98, D98, E98, F#98, G#98, A98, B98, C99, D99, E99, F#99, G#99, A99, B99, C100, D100, E100, F#100, G#100, A100, B100, C101, D101, E101, F#101, G#101, A101, B101, C102, D102, E102, F#102, G#102, A102, B102, C103, D103, E103, F#103, G#103, A103, B103, C104, D104, E104, F#104, G#104, A104, B104, C105, D105, E105, F#105, G#105, A105, B105, C106, D106, E106, F#106, G#106, A106, B106, C107, D107, E107, F#107, G#107, A107, B107, C108, D108, E108, F#108, G#108, A108, B108, C109, D109, E109, F#109, G#109, A109, B109, C110, D110, E110, F#110, G#110, A110, B110, C111, D111, E111, F#111, G#111, A111, B111, C112, D112, E112, F#112, G#112, A112, B112, C113, D113, E113, F#113, G#113, A113, B113, C114, D114, E114, F#114, G#114, A114, B114, C115, D115, E115, F#115, G#115, A115, B115, C116, D116, E116, F#116, G#116, A116, B116, C117, D117, E117, F#117, G#117, A117, B117, C118, D118, E118, F#118, G#118, A118, B118, C119, D119, E119, F#119, G#119, A119, B119, C120, D120, E120, F#120, G#120, A120, B120, C121, D121, E121, F#121, G#121, A121, B121, C122, D122, E122, F#122, G#122, A122, B122, C123, D123, E123, F#123, G#123, A123, B123, C124, D124, E124, F#124, G#124, A124, B124, C125, D125, E125, F#125, G#125, A125, B125, C126, D126, E126, F#126, G#126, A126, B126, C127, D127, E127, F#127, G#127, A127, B127, C128, D128, E128, F#128, G#128, A128, B1

The image displays a musical score for two parts: *Improv. Instr.* (Improvised Instrument) and *Computer MIDI seq.* (Computer MIDI sequence). The score is presented in two systems, with measures 25, 26, and 27 visible. The *Improv. Instr.* part is written on a single staff with a treble clef, and the *Computer MIDI seq.* part is written on a single staff with a bass clef. The music is in 4/4 time. The *Improv. Instr.* part features a melodic line with various intervals and rests. The *Computer MIDI seq.* part provides a harmonic accompaniment with chords and single notes. The score is divided into measures by vertical bar lines, and the measure numbers 25, 26, and 27 are indicated at the bottom of the page.

Improvisation and Computer MIDI sequence for measures 28-30.

Measure 28: Improvisation (top staff) and Computer MIDI sequence (bottom staff) both start with a treble clef and a key signature of one sharp (F#). The improvisation features a series of eighth notes, while the MIDI sequence features a series of quarter notes.

Measure 29: Improvisation (top staff) and Computer MIDI sequence (bottom staff) both continue the melodic line. The improvisation features a series of eighth notes, while the MIDI sequence features a series of quarter notes.

Measure 30: Improvisation (top staff) and Computer MIDI sequence (bottom staff) both continue the melodic line. The improvisation features a series of eighth notes, while the MIDI sequence features a series of quarter notes.

Improvisation and Computer MIDI sequence for measures 31-33.

Measure 31: Improvisation (top staff) and Computer MIDI sequence (bottom staff) both continue the melodic line. The improvisation features a series of eighth notes, while the MIDI sequence features a series of quarter notes.

Measure 32: Improvisation (top staff) and Computer MIDI sequence (bottom staff) both continue the melodic line. The improvisation features a series of eighth notes, while the MIDI sequence features a series of quarter notes.

Measure 33: Improvisation (top staff) and Computer MIDI sequence (bottom staff) both continue the melodic line. The improvisation features a series of eighth notes, while the MIDI sequence features a series of quarter notes.

Improvisation and Computer MIDI sequence for measures 34-36.

Measure 34: Improvisation (top staff) and Computer MIDI sequence (bottom staff) both continue the melodic line. The improvisation features a series of eighth notes, while the MIDI sequence features a series of quarter notes.

Measure 35: Improvisation (top staff) and Computer MIDI sequence (bottom staff) both continue the melodic line. The improvisation features a series of eighth notes, while the MIDI sequence features a series of quarter notes.

Measure 36: Improvisation (top staff) and Computer MIDI sequence (bottom staff) both continue the melodic line. The improvisation features a series of eighth notes, while the MIDI sequence features a series of quarter notes.

Improvisation and Computer MIDI sequence for measures 37-39.

Measure 37: Improvisation (top staff) features a melodic line with eighth and quarter notes. The Computer MIDI sequence (bottom staff) provides a harmonic accompaniment with chords and single notes.

Measure 38: The improvisation continues with a more active melodic line. The MIDI sequence maintains the harmonic support.

Measure 39: The improvisation concludes with a final melodic phrase. The MIDI sequence provides the final harmonic accompaniment.

Improvisation and Computer MIDI sequence for measures 40-42.

Measure 40: The improvisation begins with a melodic line. The MIDI sequence provides a harmonic accompaniment.

Measure 41: The improvisation continues with a melodic line. The MIDI sequence provides a harmonic accompaniment.

Measure 42: The improvisation concludes with a final melodic phrase. The MIDI sequence provides the final harmonic accompaniment.

Improvisation and Computer MIDI sequence for measures 43-45.

Measure 43: The improvisation begins with a melodic line. The MIDI sequence provides a harmonic accompaniment.

Measure 44: The improvisation continues with a melodic line. The MIDI sequence provides a harmonic accompaniment.

Measure 45: The improvisation concludes with a final melodic phrase. The MIDI sequence provides the final harmonic accompaniment.

Improv. Instr.

Computer MIDI seq.

46

47

48

Improv. Instr.

Computer MIDI seq.

49

50

51

Improvised Instrument (Instr.) and Computer MIDI sequence (MIDI seq.) for measures 52, 53, and 54. The Improv. Instr. part is in treble clef, and the Computer MIDI seq. part is in bass clef. Both parts show a melodic line with various notes and rests, and a corresponding MIDI sequence below it.

Improv.
Instr.

Computer
MIDI seq.

55

56

57

Improv.
Instr.

Computer
MIDI seq.

58

59

60

Improv.
Instr.

Computer
MIDI seq.

61

62

63

Improvised Instrumental (Improv. Instr.) and Computer MIDI Sequence (Computer MIDI seq.) for measures 64, 65, and 66.

The notation for measures 64-66 shows a melodic line in the upper staff (Improv. Instr.) and a supporting bass line in the lower staff (Computer MIDI seq.). Measure 64 features a sharp key signature and a dotted half note in the upper staff. Measure 65 continues the melody with eighth and sixteenth notes. Measure 66 concludes the phrase with a final chord. A dashed line with repeat marks is present below the upper staff in each measure.

Improvised Instrumental (Improv. Instr.) and Computer MIDI Sequence (Computer MIDI seq.) for measures 67, 68, and 69.

The notation for measures 67-69 shows a more complex melodic line in the upper staff (Improv. Instr.) and a highly active bass line in the lower staff (Computer MIDI seq.). Measure 67 begins with a series of eighth notes. Measure 68 features a rapid sixteenth-note run in the upper staff. Measure 69 ends with a final chord. A dashed line with repeat marks is present below the upper staff in each measure.

Improvised Instrumental (Improv. Instr.) and Computer MIDI Sequence (Computer MIDI seq.) for measures 70, 71, and 72.

The notation for measures 70-72 shows a melodic line in the upper staff (Improv. Instr.) and a supporting bass line in the lower staff (Computer MIDI seq.). Measure 70 features a sharp key signature and a dotted half note in the upper staff. Measure 71 continues the melody with eighth and sixteenth notes. Measure 72 concludes the phrase with a final chord. A dashed line with repeat marks is present below the upper staff in each measure.

Improvisation and Computer MIDI sequence for measures 73-75.

Measure 73: Improvisation starts on G4, moving to A4, B4, C5, D5, E5, F#5, G5, A5, B5, C6, D6, E6, F#6, G6, A6, B6, C7, D7, E7, F#7, G7, A7, B7, C8, D8, E8, F#8, G8, A8, B8, C9, D9, E9, F#9, G9, A9, B9, C10, D10, E10, F#10, G10, A10, B10, C11, D11, E11, F#11, G11, A11, B11, C12, D12, E12, F#12, G12, A12, B12, C13, D13, E13, F#13, G13, A13, B13, C14, D14, E14, F#14, G14, A14, B14, C15, D15, E15, F#15, G15, A15, B15, C16, D16, E16, F#16, G16, A16, B16, C17, D17, E17, F#17, G17, A17, B17, C18, D18, E18, F#18, G18, A18, B18, C19, D19, E19, F#19, G19, A19, B19, C20, D20, E20, F#20, G20, A20, B20, C21, D21, E21, F#21, G21, A21, B21, C22, D22, E22, F#22, G22, A22, B22, C23, D23, E23, F#23, G23, A23, B23, C24, D24, E24, F#24, G24, A24, B24, C25, D25, E25, F#25, G25, A25, B25, C26, D26, E26, F#26, G26, A26, B26, C27, D27, E27, F#27, G27, A27, B27, C28, D28, E28, F#28, G28, A28, B28, C29, D29, E29, F#29, G29, A29, B29, C30, D30, E30, F#30, G30, A30, B30, C31, D31, E31, F#31, G31, A31, B31, C32, D32, E32, F#32, G32, A32, B32, C33, D33, E33, F#33, G33, A33, B33, C34, D34, E34, F#34, G34, A34, B34, C35, D35, E35, F#35, G35, A35, B35, C36, D36, E36, F#36, G36, A36, B36, C37, D37, E37, F#37, G37, A37, B37, C38, D38, E38, F#38, G38, A38, B38, C39, D39, E39, F#39, G39, A39, B39, C40, D40, E40, F#40, G40, A40, B40, C41, D41, E41, F#41, G41, A41, B41, C42, D42, E42, F#42, G42, A42, B42, C43, D43, E43, F#43, G43, A43, B43, C44, D44, E44, F#44, G44, A44, B44, C45, D45, E45, F#45, G45, A45, B45, C46, D46, E46, F#46, G46, A46, B46, C47, D47, E47, F#47, G47, A47, B47, C48, D48, E48, F#48, G48, A48, B48, C49, D49, E49, F#49, G49, A49, B49, C50, D50, E50, F#50, G50, A50, B50, C51, D51, E51, F#51, G51, A51, B51, C52, D52, E52, F#52, G52, A52, B52, C53, D53, E53, F#53, G53, A53, B53, C54, D54, E54, F#54, G54, A54, B54, C55, D55, E55, F#55, G55, A55, B55, C56, D56, E56, F#56, G56, A56, B56, C57, D57, E57, F#57, G57, A57, B57, C58, D58, E58, F#58, G58, A58, B58, C59, D59, E59, F#59, G59, A59, B59, C60, D60, E60, F#60, G60, A60, B60, C61, D61, E61, F#61, G61, A61, B61, C62, D62, E62, F#62, G62, A62, B62, C63, D63, E63, F#63, G63, A63, B63, C64, D64, E64, F#64, G64, A64, B64, C65, D65, E65, F#65, G65, A65, B65, C66, D66, E66, F#66, G66, A66, B66, C67, D67, E67, F#67, G67, A67, B67, C68, D68, E68, F#68, G68, A68, B68, C69, D69, E69, F#69, G69, A69, B69, C70, D70, E70, F#70, G70, A70, B70, C71, D71, E71, F#71, G71, A71, B71, C72, D72, E72, F#72, G72, A72, B72, C73, D73, E73, F#73, G73, A73, B73, C74, D74, E74, F#74, G74, A74, B74, C75, D75, E75, F#75, G75, A75, B75, C76, D76, E76, F#76, G76, A76, B76, C77, D77, E77, F#77, G77, A77, B77, C78, D78, E78, F#78, G78, A78, B78, C79, D79, E79, F#79, G79, A79, B79, C80, D80, E80, F#80, G80, A80, B80, C81, D81, E81, F#81, G81, A81, B81, C82, D82, E82, F#82, G82, A82, B82, C83, D83, E83, F#83, G83, A83, B83, C84, D84, E84, F#84, G84, A84, B84, C85, D85, E85, F#85, G85, A85, B85, C86, D86, E86, F#86, G86, A86, B86, C87, D87, E87, F#87, 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B205, C206, D206, E206, F#206, G206, A206, B206, C207, D207, E207, F#207, G207, A207, B207, C208, D208, E208, F#208, G208, A208, B208, C209, D209, E209, F#209, G209, A209, B209, C210, D210, E210, F#210, G210, A210, B210, C211, D211, E211, F#211, G211, A211, B211, C212, D212, E212, F#212, G212, A212, B212, C213, D213, E213, F#213, G213, A213, B213, C214, D214, E214, F#214, G214, A214, B214, C215, D215, E215, F#215, G215, A215, B215, C216, D216, E216, F#216, G216, A216, B216, C217, D217, E217, F#217, G217, A217, B217, C218, D218, E218, F#218, G218, A218, B218, C219, D219, E219, F#219, G219, A219, B219, C220, D220, E220, F#220, G220, A220, B220, C221, D221, E221, F#221, G221, A221, B221, C222, D222, E222, F#222, G222, A222, B222, C223, D223, E223, F#223, G223, A223, B223, C224, D224, E224, F#224, G224, A224, B224, C225, D225, E225, F#225, G225, A225, B225, C226, D226, E226, F#226, G226, A226, B226, C227, D227, E227, F#227, G227, A227, B227, C228, D228, E228, F#228, G228, A228, B228, C229, D229, E229, F#229, G229, A229, B229, C230, D230, E230, F#230, G230, A230, B230, C231, D231, E231, F#231, G231, A231, B231, C232, D232, E232, F#232, G232, A232, B232, C233, D233, E233, F#233, G233, A233, B233, C234, D234, E234, F#234, G234, A234, B234, C235, D235, E235, F#235, G235, A235, B235, C236, D236, E236, F#236, G236, A236, B236, C237, D237, E237, F#237, G237, A237, B237, C238, D238, E238, F#238, G238, A238, B238, C239, D239, E239, F#239, G239, A239, B239, C240, D240, E240, F#240, G240, A240, B240, C241, D241, E241, F#241, G241, A241, B241, C242, D242, E242, F#242, G242, A242, B242, C243, D243, E243, F#243, G243, A243, B243, C244, D244, E244, F#244, G244, A244, B244, C245, D245, E245, F#245, G245, A245, B245, C246, D246, E246, F#246, G246, A246, B246, C247, D247, E247, F#247, G247, A247, B247, C248, D248, E248, F#248, G248, A248, B248, C249, D249, E249, F#249, G249, A249, B249, C250, D250, E250, F#250, G250, A250, B250, C251, D251, E251, F#251, G251, A251, B251, C252, D252, E252, 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G275, A275, B275, C276, D276, E276, F#276, G276, A276, B276, C277, D277, E277, F#277, G277, A277, B277, C278, D278, E278, F#278, G278, A278, B278, C279, D279, E279, F#279, G279, A279, B279, C280, D280, E280, F#280, G280, A280, B280, C281, D281, E281, F#281, G281, A281, B281, C282, D282, E282, F#282, G282, A282, B282, C283, D283, E283, F#283, G283, A283, B283, C284, D284, E284, F#284, G284, A284, B284, C285, D285, E285, F#285, G285, A285, B285, C286, D286, E286, F#286, G286, A286, B286, C287, D287, E287, F#287, G287, A287, B287, C288, D288, E288, F#288, G288, A288, B288, C289, D289, E289, F#289, G289, A289, B289, C290, D290, E290, F#290, G290, A290, B290, C291, D291, E291, F#291, G291, A291, B291, C292, D292, E292, F#292, G292, A292, B292, C293, D293, E293, F#293, G293, A293, B293, C294, D294, E294, F#294, G294, A294, B294, C295, D295, E295, F#295, G295, A295, B295, C296, D296, E296, F#296, G296, A296, B296, C297, D297, E297, F#297, G297, A297, B297, C298, D298, E298, F#298, G298, A298, 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F#345, G345, A345, B345, C346, D346, E346, F#346, G346, A346, B346, C347, D347, E347, F#347, G347, A347, B347, C348, D348, E348, F#348, G348, A348, B348, C349, D349, E349, F#349, G349, A349, B349, C350, D350, E350, F#350, G350, A350, B350, C351, D351, E351, F#351, G351, A351, B351, C352, D352, E352, F#352, G352, A352, B352, C353, D353, E353, F#353, G353, A353, B353, C354, D354, E354, F#354, G354, A354, B354, C355, D355, E355, F#355, G355, A355, B355, C356, D356, E356, F#356, G356, A356, B356, C357, D357, E357, F#357, G357, A357, B357, C358, D358, E358, F#358, G358, A358, B358, C359, D359, E359, F#359, G359, A359, B359, C360, D360, E360, F#360, G360, A360, B360, C361, D361, E361, F#361, G361, A361, B361, C362, D362, E362, F#362, G362, A362, B362, C363, D363, E363, F#363, G363, A363, B363, C364, D364, E364, F#364, G364, A364, B364, C365, D365, E365, F#365, G365, A365, B365, C366, D366, E366

Improvisation and Computer MIDI sequence for measures 82-84.

Improvisation (Improviser's Part):

- Measure 82: C4, D4, E4, F#4, G4, A4, B4, C5, D5, E5, F#5, G5, A5, B5, C6, D6, E6, F#6, G6, A6, B6, C7, D7, E7, F#7, G7, A7, B7, C8, D8, E8, F#8, G8, A8, B8, C9, D9, E9, F#9, G9, A9, B9, C10, D10, E10, F#10, G10, A10, B10, C11, D11, E11, F#11, G11, A11, B11, C12, D12, E12, F#12, G12, A12, B12, C13, D13, E13, F#13, G13, A13, B13, C14, D14, E14, F#14, G14, A14, B14, C15, D15, E15, F#15, G15, A15, B15, C16, D16, E16, F#16, G16, A16, B16, C17, D17, E17, F#17, G17, A17, B17, C18, D18, E18, F#18, G18, A18, B18, C19, D19, E19, F#19, G19, A19, B19, C20, D20, E20, F#20, G20, A20, B20, C21, D21, E21, F#21, G21, A21, B21, C22, D22, E22, F#22, G22, A22, B22, C23, D23, E23, F#23, G23, A23, B23, C24, D24, E24, F#24, G24, A24, B24, C25, D25, E25, F#25, G25, A25, B25, C26, D26, E26, F#26, G26, A26, B26, C27, D27, E27, F#27, G27, A27, B27, C28, D28, E28, F#28, G28, A28, B28, C29, D29, E29, F#29, G29, A29, B29, C30, D30, E30, F#30, G30, A30, B30, C31, D31, E31, F#31, G31, A31, B31, C32, D32, E32, F#32, G32, A32, B32, C33, D33, E33, F#33, G33, A33, B33, C34, D34, E34, F#34, G34, A34, B34, C35, D35, E35, F#35, G35, A35, B35, C36, D36, E36, F#36, G36, A36, B36, C37, D37, E37, F#37, G37, A37, B37, C38, D38, E38, F#38, G38, A38, B38, C39, D39, E39, F#39, G39, A39, B39, C40, D40, E40, F#40, G40, A40, B40, C41, D41, E41, F#41, G41, A41, B41, C42, D42, E42, F#42, G42, A42, B42, C43, D43, E43, F#43, G43, A43, B43, C44, D44, E44, F#44, G44, A44, B44, C45, D45, E45, F#45, G45, A45, B45, C46, D46, E46, F#46, G46, A46, B46, C47, D47, E47, F#47, G47, A47, B47, C48, D48, E48, F#48, G48, A48, B48, C49, D49, E49, F#49, G49, A49, B49, C50, D50, E50, F#50, G50, A50, B50, C51, D51, E51, F#51, G51, A51, B51, C52, D52, E52, F#52, G52, A52, B52, C53, D53, E53, F#53, G53, A53, B53, C54, D54, E54, F#54, G54, A54, B54, C55, D55, E55, F#55, G55, A55, B55, C56, D56, E56, F#56, G56, A56, B56, C57, D57, E57, F#57, G57, A57, B57, C58, D58, E58, F#58, G58, A58, B58, C59, D59, E59, F#59, G59, A59, B59, C60, D60, 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98

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The image displays a musical score for two parts: 'Impro. Instr.' (Improvised Instrument) and 'Computer MIDI seq.' (Computer MIDI sequence). The score is written on two staves, both using a treble clef. The 'Impro. Instr.' staff features a series of notes, including a whole note, followed by a series of eighth notes, and then a series of quarter notes. The 'Computer MIDI seq.' staff features a series of notes, including a whole note, followed by a series of eighth notes, and then a series of quarter notes. The score is divided into three measures, labeled 100, 101, and 102. Measure 100 contains a whole note and a series of eighth notes. Measure 101 contains a series of eighth notes and a series of quarter notes. Measure 102 contains a series of quarter notes and a series of eighth notes. The notes are written in a standard musical notation, with stems and beams indicating the rhythm. The overall style is that of a musical score, with a clear distinction between the two parts and a structured layout.

The image shows a musical score for two staves. The top staff is labeled 'Improv. Instr.' and the bottom staff is labeled 'Computer MIDI seq.'. The score is divided into three measures, numbered 103, 104, and 105. Measure 103 shows a sequence of notes on the top staff, followed by a double bar line. Measure 104 shows a sequence of notes on the top staff, followed by a double bar line. Measure 105 shows a sequence of notes on the top staff, followed by a double bar line. The bottom staff is mostly empty, with some notes visible in measure 105.

The image displays a musical score for two parts: 'Improv. Instr.' (Improvised Instrument) and 'Computer MIDI seq.' (Computer MIDI sequence). The score is written on two staves, both using treble clefs. The 'Improv. Instr.' staff features a melodic line with various accidentals (sharps, flats, and naturals) and rests. The 'Computer MIDI seq.' staff provides a harmonic accompaniment, often using chords and moving lines. The score is divided into measures, with specific measures 106, 107, and 108 highlighted by vertical lines and corresponding measure numbers in boxes below the staff. The notation includes various musical symbols such as notes, rests, and accidentals, indicating a complex musical composition.

Improvised Instrument (top) and Computer MIDI sequence (bottom). The Improvised Instrument part features a melodic line with various intervals and a dashed line indicating a continuation of the sequence. The Computer MIDI sequence part shows a corresponding melodic line with various intervals. The score is divided into measures 109, 110, and 111.

Improv. Instr.

Computer MIDI seq.

112

113

114

Improv. Instr.

Computer MIDI seq.

115

116

117

Improvised Instrumental (Improv. Instr.) and Computer MIDI Sequence (Computer MIDI seq.) for measures 118, 119, and 120.

118 119 120

Improvised Instrumental (Improv. Instr.) and Computer MIDI Sequence (Computer MIDI seq.) for measures 121, 122, and 123.

121 122 123

Improvised Instrumental (Improv. Instr.) and Computer MIDI Sequence (Computer MIDI seq.) for measures 124, 125, and 126.

124 125 126

Impro.
Instr.

Computer
MIDI seq.

127

128

129

Impro.
Instr.

Computer
MIDI seq.

130

131

132

Impro.
Instr.

Computer
MIDI seq.

133

134

135

The image shows a musical score for two parts: *Improv. Instr.* (Improvised Instrument) and *Computer MIDI seq.* (Computer MIDI sequence). The score is divided into three measures, labeled 136, 137, and 138 at the bottom.

- Measure 136:** The *Improv. Instr.* part begins with a series of eighth notes, followed by a dotted quarter note, and then a half note. The *Computer MIDI seq.* part features a complex, multi-measure rest followed by a series of eighth notes.
- Measure 137:** The *Improv. Instr.* part continues with a series of eighth notes, followed by a dotted quarter note, and then a half note. The *Computer MIDI seq.* part features a complex, multi-measure rest followed by a series of eighth notes.
- Measure 138:** The *Improv. Instr.* part continues with a series of eighth notes, followed by a dotted quarter note, and then a half note. The *Computer MIDI seq.* part features a complex, multi-measure rest followed by a series of eighth notes.

The image displays a musical score for two parts: 'Improv. Instr.' (Improvised Instrument) and 'Computer MIDI seq.' (Computer MIDI sequence). The score is written on two staves, with the 'Improv. Instr.' staff in the upper system and the 'Computer MIDI seq.' staff in the lower system. The music is in 4/4 time and features a key signature of one flat (B-flat). The score is divided into measures, with measure numbers 139, 140, and 141 indicated below the staves. The 'Improv. Instr.' part consists of a single melodic line, while the 'Computer MIDI seq.' part features a more complex, multi-voiced texture with multiple notes and rests. The notation includes various musical symbols such as notes, rests, and accidentals.

The image displays a musical score for two parts: 'Improv. Instr.' (Improvised Instrument) and 'Computer MIDI seq.' (Computer MIDI sequence). The score is presented in two systems, each containing three measures. The first system covers measures 142, 143, and 144. The second system continues the sequence. The 'Improv. Instr.' part is written on a single staff with a treble clef and a key signature of one flat (B-flat). The 'Computer MIDI seq.' part is written on a single staff with a bass clef and a key signature of one flat (B-flat). The notation includes various musical symbols such as notes, rests, and accidentals. The measures are numbered 142, 143, and 144 at the bottom of the page.

The image displays a musical score for two parts: 'Improv. Instr.' (Improvised Instrument) and 'Computer MIDI seq.' (Computer MIDI sequence). The score is written on two staves, with the 'Improv. Instr.' staff in the upper position and the 'Computer MIDI seq.' staff in the lower position. The notation includes various musical symbols such as notes, rests, and accidentals (sharps, flats, and naturals). The score is divided into measures, with specific measures highlighted by dashed lines and labeled with measure numbers 145, 146, and 147. The 'Improv. Instr.' staff shows a melodic line with many accidentals, while the 'Computer MIDI seq.' staff shows a more structured sequence of notes and rests.

The image displays a musical score for two parts: 'Improv. Instr.' (Improvised Instrument) and 'Computer MIDI seq.' (Computer MIDI sequence). The score is divided into three measures, labeled 148, 149, and 150 at the bottom.

- Measure 148:** The 'Improv. Instr.' part begins with a treble clef and a key signature of one flat (B-flat). The melody starts on a whole note G4, followed by a half note F#4, and then a quarter note E4. The 'Computer MIDI seq.' part, written in bass clef, provides a harmonic accompaniment with a whole note G4, a half note F#4, and a quarter note E4.
- Measure 149:** The 'Improv. Instr.' part continues with a half note D4, a quarter note C4, and then a half note B3. The 'Computer MIDI seq.' part continues with a whole note G3, a half note F#3, and a quarter note E3.
- Measure 150:** The 'Improv. Instr.' part concludes with a half note A3, a quarter note G3, and then a half note F#3. The 'Computer MIDI seq.' part concludes with a whole note G3, a half note F#3, and a quarter note E3.

The score is presented in a clean, professional layout with a white background and black musical notation. The measures are separated by vertical bar lines, and the overall structure is clear and easy to read.

The image shows a musical score with two staves. The top staff is labeled "Improv. Instr." and the bottom staff is labeled "Computer MIDI seq.". The score is divided into measures, with measure numbers 151, 152, and 153 indicated at the bottom. The notation includes various musical symbols such as notes, rests, and accidentals.

Improv. Instr.

Computer MIDI seq.

154

155

156

The image displays a musical score for two parts: 'Improv. Instr.' (Improvised Instrument) and 'Computer MIDI seq.' (Computer MIDI sequence). The score is presented in three measures, labeled 160, 161, and 162 at the bottom. The 'Improv. Instr.' part is written on a single staff with a treble clef, featuring a melodic line with various accidentals (sharps, flats, naturals) and a rhythmic pattern of eighth and sixteenth notes. The 'Computer MIDI seq.' part is written on a single staff with a bass clef, featuring a more complex melodic line with many accidentals and a rhythmic pattern of eighth and sixteenth notes. The two parts are synchronized, with the 'Improv. Instr.' part often playing a simplified or more melodic version of the 'Computer MIDI seq.' part. The score is set in a key with one flat (B-flat major or D minor) and a 4/4 time signature. The measures are separated by vertical bar lines, and the overall layout is clean and professional.

Improv.
Instr.

Improvised instrument staff for measures 163-165. The staff contains a melodic line with various intervals and a dashed line below it.

Computer
MIDI seq.

Computer MIDI sequence staff for measures 163-165. The staff contains a melodic line with various intervals and a dashed line below it.

163

164

165

Improv.
Instr.

Improvised instrument staff for measures 166-168. The staff contains a melodic line with various intervals and a dashed line below it.

Computer
MIDI seq.

Computer MIDI sequence staff for measures 166-168. The staff contains a melodic line with various intervals and a dashed line below it.

166

167

168

Improv.
Instr.

Improvised instrument staff for measures 169-171. The staff contains a melodic line with various intervals and a dashed line below it.

Computer
MIDI seq.

Computer MIDI sequence staff for measures 169-171. The staff contains a melodic line with various intervals and a dashed line below it.

169

170

171

The image shows a musical score for two parts: *Improv. Instr.* (Improvised Instrument) and *Computer MIDI seq.* (Computer MIDI sequence). The score is divided into three measures, labeled 172, 173, and 174 at the bottom.

- Measure 172:** The *Improv. Instr.* part starts with a whole note G4, followed by a half note A4, and a whole note B4. The *Computer MIDI seq.* part starts with a whole note G3, followed by a half note A3, and a whole note B3.
- Measure 173:** The *Improv. Instr.* part starts with a whole note C5, followed by a half note D5, and a whole note E5. The *Computer MIDI seq.* part starts with a whole note C4, followed by a half note D4, and a whole note E4.
- Measure 174:** The *Improv. Instr.* part starts with a whole note F5, followed by a half note G5, and a whole note A5. The *Computer MIDI seq.* part starts with a whole note F4, followed by a half note G4, and a whole note A4.

Improv. Instr.

Computer MIDI seq.

175

176

177

Improv.
Instr.

Computer
MIDI seq.

181

182

183

Improv.
Instr.

Computer
MIDI seq.

184

185

186

Improv.
Instr.

Computer
MIDI seq.

187

188

189

The image shows a musical score for two parts: *Impro. Instr.* (Improvised Instrument) and *Computer MIDI seq.* (Computer MIDI sequence). The score is divided into three measures, labeled 190, 191, and 192. The *Impro. Instr.* part is written in treble clef, and the *Computer MIDI seq.* part is written in bass clef. The score shows a sequence of notes and rests, with a dashed line indicating a continuation of the sequence.

Figure 10 shows a musical score for two staves. The top staff is labeled "Improv. Instr." and the bottom staff is labeled "Computer MIDI seq.". The score is divided into three measures, each containing a sequence of notes. The first measure is labeled "193", the second "194", and the third "195".

The image shows a musical score for two parts: *Improv. Instr.* (Improvised Instrument) and *Computer MIDI seq.* (Computer MIDI sequence). The score is divided into three measures, labeled 196, 197, and 198 at the bottom.

- Measure 196:** The *Improv. Instr.* part starts with a treble clef and a key signature of one sharp (F#). The *Computer MIDI seq.* part starts with a bass clef and a key signature of one sharp (F#).
- Measure 197:** The *Improv. Instr.* part continues with a treble clef and a key signature of one sharp (F#). The *Computer MIDI seq.* part continues with a bass clef and a key signature of one sharp (F#).
- Measure 198:** The *Improv. Instr.* part continues with a treble clef and a key signature of one sharp (F#). The *Computer MIDI seq.* part continues with a bass clef and a key signature of one sharp (F#).

The *Improv. Instr.* part is written on a single staff with a treble clef. The *Computer MIDI seq.* part is written on a single staff with a bass clef. The score is divided into three measures, labeled 196, 197, and 198 at the bottom.

Improvisation and Computer MIDI sequence for measures 199-201.

Measure 199: Improvisation (Improviser's Instrument) and Computer MIDI sequence.

Measure 200: Improvisation (Improviser's Instrument) and Computer MIDI sequence.

Measure 201: Improvisation (Improviser's Instrument) and Computer MIDI sequence.

Improvisation and Computer MIDI sequence for measures 202-204.

Measure 202: Improvisation (Improviser's Instrument) and Computer MIDI sequence.

Measure 203: Improvisation (Improviser's Instrument) and Computer MIDI sequence.

Measure 204: Improvisation (Improviser's Instrument) and Computer MIDI sequence.

Improvisation and Computer MIDI sequence for measures 205-207.

Measure 205: Improvisation (Improviser's Instrument) and Computer MIDI sequence.

Measure 206: Improvisation (Improviser's Instrument) and Computer MIDI sequence.

Measure 207: Improvisation (Improviser's Instrument) and Computer MIDI sequence.

Improv.
Instr.

Computer
MIDI seq.

208

209

210

Improv.
Instr.

Computer
MIDI seq.

211

212

213

Improv.
Instr.

Computer
MIDI seq.

214

215

216

The image shows a musical score with two staves. The top staff is labeled 'Improv. Instr.' and the bottom staff is labeled 'Computer MIDI seq.'. Both staves contain musical notation, including notes, rests, and accidentals. The notation is written on a grand staff with a treble clef for the top staff and a bass clef for the bottom staff. The music is in 4/4 time. The score is divided into measures by vertical bar lines. The bottom staff has a dashed line indicating a continuation of the sequence. The score is labeled with measure numbers 218 and 219 at the bottom.

The image shows a musical score with two staves. The top staff is labeled 'Improv. Instr.' and the bottom staff is labeled 'Computer MIDI seq.'. Both staves contain musical notation, including notes, rests, and bar lines. Below the staves, there are three rectangular boxes containing the numbers 220, 221, and 222, which correspond to MIDI sequence numbers.

The image shows a musical score with two staves. The top staff is labeled "Improv. Instr." and the bottom staff is labeled "Computer MIDI seq.". The top staff uses a treble clef and the bottom staff uses a bass clef. The music is written in a key with one flat (B-flat). The top staff has a series of notes, some of which are beamed together. The bottom staff has a series of notes, some of which are beamed together. Below the bottom staff, there are three boxes containing the numbers 223, 224, and 225, which correspond to MIDI note numbers.

The image shows a musical score for two parts: *Improv. Instr.* (Improvised Instrument) and *Computer MIDI seq.* (Computer MIDI sequence). The score is divided into three measures, labeled 226, 227, and 228. The *Improv. Instr.* part is written on a treble clef staff with a key signature of one flat (Bb). The *Computer MIDI seq.* part is written on a bass clef staff with a key signature of one flat (Bb). The score includes various musical notations such as notes, rests, and bar lines. The *Improv. Instr.* part features a series of notes in measure 226, followed by a series of notes in measure 227, and a series of notes in measure 228. The *Computer MIDI seq.* part features a series of notes in measure 226, followed by a series of notes in measure 227, and a series of notes in measure 228.

The image shows a musical score with two staves. The top staff is labeled "Improv. Instr." and the bottom staff is labeled "Computer MIDI seq.". The score is divided into three measures, numbered 229, 230, and 231. The notation includes various musical symbols such as notes, rests, and accidentals. The bottom staff has a dashed line across it in measure 229.

Improv.
Instr.

Computer
MIDI seq.

235

236

237

Improv.
Instr.

Computer
MIDI seq.

238

239

240

Improv.
Instr.

Computer
MIDI seq.

241

242

243

Improv.
Instr.

Computer
MIDI seq.

244

245

246

Improv.
Instr.

Computer
MIDI seq.

247

248

249

Improv.
Instr.

Computer
MIDI seq.

250

251

252

Impro. Instr.

Computer MIDI seq.

253

254

255

This system contains measures 253, 254, and 255. Each measure is represented by a pair of staves: a top staff for 'Impro. Instr.' and a bottom staff for 'Computer MIDI seq.'. The staves are connected by a brace on the left. Measure 253 shows a melodic line in the top staff and a more complex, multi-note line in the bottom staff. Measure 254 continues the melodic development in the top staff and features a dense, multi-note sequence in the bottom staff. Measure 255 shows a continuation of the melodic line in the top staff and a simpler, more rhythmic line in the bottom staff. The notation includes various accidentals (sharps, flats, naturals) and note values (quarter, eighth, and sixteenth notes).

Impro. Instr.

Computer MIDI seq.

256

257

258

This system contains measures 256, 257, and 258. Each measure is represented by a pair of staves: a top staff for 'Impro. Instr.' and a bottom staff for 'Computer MIDI seq.'. The staves are connected by a brace on the left. Measure 256 shows a melodic line in the top staff and a multi-note sequence in the bottom staff. Measure 257 continues the melodic development in the top staff and features a dense, multi-note sequence in the bottom staff. Measure 258 shows a continuation of the melodic line in the top staff and a simpler, more rhythmic line in the bottom staff. The notation includes various accidentals (sharps, flats, naturals) and note values (quarter, eighth, and sixteenth notes).

Impro. Instr.

Computer MIDI seq.

259

260

261

This system contains measures 259, 260, and 261. Each measure is represented by a pair of staves: a top staff for 'Impro. Instr.' and a bottom staff for 'Computer MIDI seq.'. The staves are connected by a brace on the left. Measure 259 shows a melodic line in the top staff and a multi-note sequence in the bottom staff. Measure 260 continues the melodic development in the top staff and features a dense, multi-note sequence in the bottom staff. Measure 261 shows a continuation of the melodic line in the top staff and a simpler, more rhythmic line in the bottom staff. The notation includes various accidentals (sharps, flats, naturals) and note values (quarter, eighth, and sixteenth notes).

Improv.
Instr.

Computer
MIDI seq.

262

263

264

Improv.
Instr.

Computer
MIDI seq.

271

272

273

Improv.
Instr.

Computer
MIDI seq.

274

275

276

Improv.
Instr.

Computer
MIDI seq.

277

278

279

Improvisation and Computer MIDI sequence for measures 280-282.

Improvisation (top staff): Improvised melody in treble clef.

Computer MIDI sequence (bottom staff): Computer-generated accompaniment in bass clef.

Measure numbers: 280, 281, 282.

Improvisation and Computer MIDI sequence for measures 283-285.

Improvisation (top staff): Improvised melody in treble clef.

Computer MIDI sequence (bottom staff): Computer-generated accompaniment in bass clef.

Measure numbers: 283, 284, 285.

Improvisation and Computer MIDI sequence for measures 286-288.

Improvisation (top staff): Improvised melody in treble clef.

Computer MIDI sequence (bottom staff): Computer-generated accompaniment in bass clef.

Measure numbers: 286, 287, 288.

Improv.
Instr.

Computer
MIDI seq.

289

290

291

Improv.
Instr.



Computer
MIDI seq.



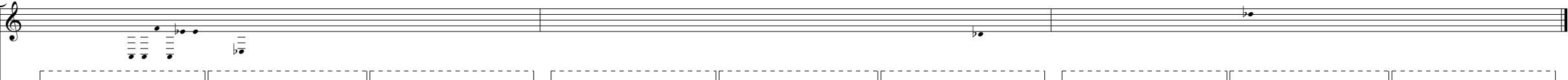
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299

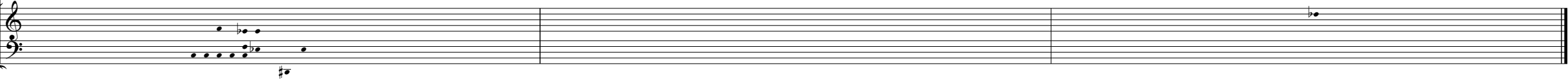
300



Improv.
Instr.



Computer
MIDI seq.



301

302

303