Law of the Shortest Way and Jazz Improvisation: A Voice-Leading Model for the Analysis of "'Round Midnight"

Jason Mounzer

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University of Ottawa

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Abstract

This thesis presents a method of analyzing jazz improvisation and jazz style by using a voice-leading model called “Top Lines.” It compares three separate performances of Thelonious Monk’s “’Round Midnight” by Monk, Gerry Mulligan, and Wes Montgomery. The term Top Lines refers to a voice-leading procedure created by moving as little as possible between chords tones (roots, thirds, fifths, sevenths, and upper functions) of a chordal progression. Top Lines are potential voice-leading lines in the uppermost register and follow the “Law of the Shortest Way.” The thesis defines Top Lines, shows how they interconnect, and ultimately how the improvisor navigates through and manipulates them. Jazz harmony and improvisation have been explored by scholars such as Mark Levine (1989, 1995), Steve Larson (2005), Henry Martin (1988, 1996), and Steven Strunk (1996). Although many scholars deal with coherence and structure in the improvisation, their discussions focus on voice leading coherence and structure in improvisations, where this thesis differs is it provides a voice-leading model on a small scale within the improvisation itself. The model presented in this thesis raises the notion of describing jazz improvisation not simply as a motion from one chord tone to another, but instead as motion between voice leading Top Lines. These motions between Top Lines create coherence and motives—called “Particles”— in one’s improvisation. Particles ultimately demonstrate stylistic features in one’s improvisation, motivic connections, and coherence. The thesis concludes by describing how the Top Line model can be applied to jazz performance and jazz pedagogy. The thesis will be of interest to scholars of jazz theory, musicology, pedagogy, and jazz performance.

Glossary

Bridge

The contrasting section of the form, typically in a ternary form. A standard form for a 32-measure jazz standard would be AABA, with “B” representing the bridge.

Changes

The chord progression of a jazz composition. Jazz musicians improvise solos from the chord tones of the chord progression, and from added tones not necessarily indicated in the changes, such as passing tones or “upper-function” chord tones such as chordal ninths, elevenths, and thirteenths.

Chorus

A complete iteration of the entire chord changes. Improvisors will often take several “choruses” in their improvisation, meaning they will solo over the entire form a number of times.

Guide Tones

The notes that comprise the voice leading in the chord, typically referring to the third and seventh.

Head

The main melody of the jazz standard.

Law of the Shortest Way

A term used notably by Arnold Schoenberg to describe the voice-leading practice where each voice moves as little as possible from one chord to another in a chordal progression. The Law of the Shortest Way can be compared in certain respects to the modern theoretical notion of “parsimony.”

Lead Sheet

A way in which the core elements of a standard are notated. Lead sheets usually comprise of a melody and chord changes, thus leaving much room for the performer’s interpretation.

Particles

A motive created by moving from one Top Line to another. Particles are represented through the Top Line Matrix. By means of Particles, the Top Line Matrix can be manipulated and adapted within a specific section of the tune.

Standard

A musical work that is commonly played by jazz musicians, thus being associated with the common or “standard” repertoire of that genre. “’Round Midnight” is a famous jazz standard.

Top Line

A potential voice-leading model created using the “Law of the Shortest Way” as a means of navigating through the changes of the musical work. A Top Line is created by joining tones

of successive chords where these are related by the Law of the Shortest Way. That is to say, a Top Line might be created out of a tone held in common between two successive chords, or where two successive chord tones are a scale step distant from each other. Top Lines can be compared to the voice parts of a Bach chorale (soprano, alto, tenor, and bass parts).

Top Line Matrix

A term to describe the interconnection and coherence of all Top Lines and how they relate to each other, as well as to explain how performers navigate between any given Top Line and to describe motivic Particles

Chapter 1 - Introduction

This thesis analyzes three performances of "'Round Midnight" through a proposed "Top Line" model. By analyzing three separate performances—one by Thelonious Monk, one by Gerry mulligan, and the last by Wes Montgomery— this thesis provides an analysis that demonstrates consistency in one's improvisation which can ultimately be used to identify stylistic features of each artist.[1] This can help better understand a musician's approach to playing over a given set of chord changes as well as provide a foundation for those who wish to delve into improvisation but do not know where to start. However, before all that, at the core of this thesis is a method of analyzing consistency in one's improvisation.

There have been several jazz theory treatises which discuss the concepts of improvisation, the basics of jazz theory, or practical treatises on how to play jazz. Although several treatises discuss jazz performance and improvisation, few address voice leading in jazz beyond the guide tone progression of the ii-V-I. Voice leading and connecting adjacent chords via guide tone lines are concepts introduced to jazz improvisors early in their pedagogical journey. However, a divide exists in both literature and theoretical frameworks of being performance-based pedagogy *or* academic analysis. Furthermore, few theoretical frameworks offer application for both analysis and performance.

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[1] By improvisation, I mean tonal improvisation over a set of chord changes and should not be confused with free improvisation.

Essentially, this thesis explores the idea of describing jazz improvisation not as a motion from one chord tone to another, but instead as a motion from one "Top Line" to another.[2] This demonstrates that voice leading can take place between lines implicit within a chord instead of only between changing chords. This will be useful to both performing jazz musicians and those who wish to explore a different method of jazz analysis. Voice leading, as it is used here, refers to how the improvisor connects chords and navigates between chord tones to create a smooth transition between chords, but also the lines the improvisor creates within a stagnant chord. Thus, voice leading does not necessitate a change in harmony, only a change in melody or "Top Line."

Work on this thesis began with Professor Dineen in June 2016. In trying to formulate a theoretical framework, Professor Dineen drew upon 2 aspects of his own work. The first of which is the idea of contrapuntal combination, which presents a tabular representation of the actual and possible combinations of the subject and countersubjects in a contrapuntal work such as a Bach fugue. This directly led to the Top Line Matrix representation, which combines the various lines suggested by a chordal progression, creating a multi-layered table. The second aspect of Professor Dineen's research that lead to the theoretical framework for this thesis stems from his work on Schoenberg's *Theory of Harmony*. Therein, he concentrated on the "Law of the Shortest Way," which Schoenberg follows (albeit often inconsistently) in his theory treatise and elsewhere. This, then, gave me two foundations for my thesis work: the tabular representation of voice leading, and the Law of the Shortest Way as a voice leading constraint.

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[2] A full definition of "Top Line" is presented in Chapter 2: Theoretical Framework.

To this foundation, I added several new approaches. I interpreted the chord changes of a jazz standard as a set of lines—the Top Line Matrix—where each line followed the Law of the Shortest Way as closely as possible (with certain exceptions). I conceived of an actual jazz solo line as a pattern of shifts between lines of abstract lines of the Matrix, and I derived a means of describing these shifts by using integers, written above the solo, which correspond to the individual lines of the Matrix. Patterns of shifts occurred and reoccurred at particular moments in the jazz standard, from improvised chorus to chorus. I proposed the concept of a "Particle" to describe these recurring patterns. I then applied the theoretical framework to solos by Thelonious Monk, Gerry Mulligan, and Wes Montgomery.

"'Round Midnight" is a composition by Thelonious Monk that has entered the jazz canon through its performance by many artists. The chromatic ii-V's make the changes to this standard interesting for jazz musicians to explore. "'Round Midnight" first appeared on Monk's 1947 album, *Genius of Modern Music: Volume 1.* Since its release, numerous jazz musicians have taken creative liberties with both the harmony and melody. Notably Cootie Williams and Dizzy Gillespie have made significant embellishments in their renditions. Bernie Hanighen added lyrics to the melody.[3]After its escalade in popularity among the jazz community, "'Round Midnight" became the title and signature track of a 1986 film starring iconic jazz saxophonist Dexter Gordon. (Dempsey 1987)

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[3] Williams and Hanighen's additions were so monumental that they have since been given partial credits on the composition.

All of these renditions and inclusions of "'Round Midnight" are only a glimpse of the body of works that include "'Round Midnight" and it has since been gifted the title of the most recorded jazz standard that was composed by a jazz musician.[4]

"'Round Midnight" follows a 32-measure AABA form. This means that there is an opening eight-measure phrase that ends with a half cadence which is then repeated but adjusted to conclude with a perfect authentic cadence. (This comprises the "AA" sections of the form.) This is then followed by a contrasting eight-measure section— the B section— which presents a variant chord progression and melody before returning to the A section phrase concluding with a perfect authentic cadence. The phrase structure is further divided into 2-measure sub-phrases which all follow a similar contour of an arpeggiated accent followed by a slight descend to resolve the unsettled arpeggio.

It was with these things in mind that this particular jazz standard was chosen for this thesis. Beyond that, however, the specific recordings were chosen for a multitude of reasons. Firstly, they were selected due to accessibility. Transcriptions of these recordings were easily found and thus were the first to be analyzed through the Top Line model. Secondly, these artists were chosen to demonstrate the stylistic differences of each instrument, as well as the individual improviser. Thus, they were chosen because each recording featured an artist using a different instrument to improvise. This became apparent as each piece was analyzed through the various stages involved with the Top Line model.

The theory presented in this thesis was developed throughout various stages, which shall be discussed in greater length in Chapter 3: Methodology. The discussion of these stages serves as both a glimpse into the process taken in creating the Top Line theory as well as a step-by-step approach to applying this analytical method to different works.

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[4] Wilson, Jeremy. "Round Midnight" http://www.jazzstandards.com/compositions-0/roundmidnight.html.

This thesis then, provides an analysis that utilizes voice-leading models to depict patterns and consistencies in one's improvisation. This is shown through different performances of the jazz standard "'Round Midnight." Ultimately demonstrating different approaches in improvisation and stylistic features of each artist.

Literature Review

Jazz theory and analysis has grown slowly over the past several decades. Numerous scholars have explored ways of categorizing, rationalizing, and analyzing jazz harmony. Scholars have also extended theoretical frameworks intended for other musics to jazz. Among these, the following are particularly noteworthy. Steve Larson (Larson 1998, 2007) and Henry Martin (Martin 1998) both of whose work applies and extends Schenker's concepts and analytic methods to jazz. Guy Capuzzo discusses neo-Riemannian and transformational theory in Punk-Rock and Pat Martino's guitar jazz playing (Capuzzo 2004, 2006), tracing transformations found therein. Keith Salley takes an ordered step theory approach to analyzing motive in jazz by analyzing the steps and contour of a melodic motive to accommodate for the shifting key centers often found in jazz standards. (Salley 2012). In these and other regards, scholars have long searched for methods of analyzing the complexities in jazz harmony, voice leading, and improvisation by applying and adapting previous methods of analysis to be suitable for jazz analysis.

Jazz theory and harmony is by no means a new topic of discussion. In fact, the body of literature on jazz theory and harmony is so vast that an accurate summation of all the areas and discussions would be unachievable in a project of this size. Having said that, what follows is a summary of the many books and articles that have been used in preparation for this thesis with hopes to identify and address any discourses or gaps in the literature or other issues.

The literature presented is divided into two separate categories: performance-based literature and analysis-based literature. Each section provides its own valuable insights and contributions to this project. It is important to note that these categories are for organizational purposes only and many works of literature can fit into either category. However, this organization will make any gaps in the literature transparent and make trends and recurring themes apparent.

Performance-based Literature

Performance-based literature refers to treatises, instruction manuals, and the like which seek to instruct musicians on how to play jazz. These books often cover basic jazz theory such as modes, chord-scale relationships, and perhaps variations to make your playing more "out."[5]

Mark Levine's *Jazz Theory Book* and *Jazz Piano Book* (1995, 1989) are by now the recognized leaders in the literature of jazz theory and improvisation. Both discuss the fundamentals of playing jazz. The *Jazz Theory Book* addresses broader topics to transfer across various instruments while the *Jazz Piano Book* focuses on performance practises specific to piano, focusing on voicings and accompaniment strategies. These two books provide fundamental knowledge in jazz theory and harmony. Moreover, both books offer numerous voice leading examples in a jazz context.

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[5] "Out" is a term jazz musicians use to describe a style of playing that is further from diatonic improvisation over the chord changes, adding more chromaticism and alterations to each chord.

Dariusz Terefenko's *Jazz Theory: From Basic to Advanced Study* (2014) discusses similar topics to Levine's *Jazz Theory Book*, focusing on fundamentals in jazz theory and harmony. Terefenko provides a great deal of depth on topics Levine does not address or on which he does not go into great detail. Two of these are particularly relevant for this thesis: the practice of moving as little as possible in voice leading and the creation compound melodies.

David Liebman's work *A Chromatic Approach to Jazz Harmony and Melody* (2013) discusses how an improvisor can navigate through the chord changes chromatically, presenting numerous alterations to chords unheard in diatonic harmonies. Put differently, Liebman's work presents a method to explore non-diatonic harmonies in improvisation by exploring the use of chromatism and utilizing the Law of the Shortest Way and stepwise movement in one's improvisation.

Both *Jazz Improvisation: Swing and Early Progressive Piano Styles* and *Jazz Improvisation: Contemporary Piano Styles* by John Mehegan (1990, 1994) discuss common improvisation techniques from various eras and styles of jazz. What is particularly interesting about these sources is the fact that they address stylistic features of the different eras of jazz and show how to replicate the features of each era.

The general task common throughout the performance-based sources surveyed is to instruct the reader in how to perform: to show them the practical knowledge required to perform jazz. The subjects covered include basic harmonies and extensions, intervals, as well as jazz scales and their various jazz modes. Many performance-based sources contain valuable practice tips and are organized in such a fashion that beginner, intermediate, and experienced players can find value in such treatises. However, few of these treatises address voice leading beyond the guide tones—that is, the third of the chord and the seventh—in a ii-V-I progression.[6] We can see that while many discuss the practical knowledge required to play jazz, they neglect a general sense of voice leading and adding coherence to one's improvisation. Very few sources analyze motive and motivic development, with exception perhaps of Levine, Martin, and Terefenko. Nor do the sources acknowledge large-scale motivic connections and how to create coherent improvised lines.

Analysis-based literature

Analysis-based literature refers to those sources which serve more of an analytic purpose rather than a practical one. These sources take a more theoretical standpoint and typically have more detailed discussions on topics such as voice leading rather than voicings, modes, and other performance features. However, the divide between these two categories of performance and analysis is perhaps subjective, and many sources can fit into either category. The categorization here is not so important to our discussion as much as the content of each source.

Scott DeVeaux's article "Three Masters of Jazz Piano: Thelonious Monk & Popular Song" (2004) argues that Thelonious Monk often stayed close to the melody in his improvisations and uses the melody as a base upon which he develops his improvisations. We shall observe this in our analysis of Monk's solo on "'Round Midnight" in our analysis below.

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[6] This general statement is not indicative of all performance manuals, but merely an observation based on those surveyed.

Steve Larson's *Analyzing Jazz: a Schenkerian Approach* (2009) discusses the extension of Schenkerian analysis to jazz music and the modifications needed for such an extension to be successful. An example would be the modifications needed to accommodate for the extensions such as tonic major-seventh chords that are found ubiquitously in jazz harmony but are absent in Schenker's model. Larson's work has had a considerable effect upon jazz studies in North America. While we address his Schenkerian approach from time to time, we shall largely set to one side a Schenkerian approach.

Keith Salley's article "Ordered Step Motives in Jazz Standards" (2012) discusses motives in jazz standards but provides a model to accommodate for the frequent change in tonality commonly found in the jazz repertory. Salley's model counts ordered steps between notes for an intervallic analysis of motive, rather than a diatonic analysis of motive. For example, an ordered step motive (OSM) in a ii-V-I progression may be < 0 2 3 4 > in which 0 would be the key center and each other integer is the distance in semitones from the key center.

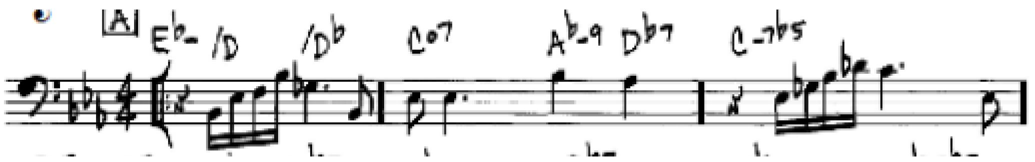
Steven Strunk's "Linear Intervallic Patterns in Jazz Repertory" (1996) discusses common linear intervallic patterns (LIP) in jazz. Furthermore, this article demonstrates the most common voice-leading practices in the jazz tradition and addresses their application is various chord progressions. This is useful for our study because it will help explain why the Top Lines are created in such a way that they are as well as in justifying when one note is favoured over another equidistant note.

In general, the analytical sources discussed in this thesis address the gaps not covered by the performance-based literature. Several analytical books and articles discuss large-scale connections in one's improvisation, coherence in improvisation, and voice leading. However, a divide is created—much like the one used to categorize these sources—of whether the content is practical or analytic. One of the aims of this thesis is to provide a model for bridging this divide, providing a tool for both analysis and a method which can be applicable for performance and jazz pedagogy.

Terminology

Before delving into the theoretical framework of this thesis, it is beneficial to briefly define some standard jazz terminology that will be used frequently throughout this thesis. First to warrant definition is the term "lead sheet." A "lead sheet" is a way in which the core elements of a "standard" (to be defined below) are notated. These core elements typically comprise of the melody of the jazz composition and chord symbols.[7] The melody typically appears in its most basic form, stripped of most embellishments and any instructions for performance. The chord symbols appear in a similar fashion, illustrating only the root, quality, and perhaps chordal extensions. Figure 1.1 illustrates how a lead sheet would represent both melody and chord of mm. 1-4 for "'Round Midnight."

Figure 1.1 – Example of a Lead Sheet



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[7] The lead sheet for "'Round Midnight" is provided on Appendix page 1.

The lead sheet is meant more as a template rather than a performance manuscript to be played verbatim. This leaves embellishments, chord voicings, and other performative nuances up to the discretion of the performer(s). The minimal notation leaves room for personal interpretation of both voice leading in the harmony and embellishments of the melody. In sum, the lead sheet is intended to serve as a template from which the musician can deviate and develop rather than a fixed notation of the tune meant to be played verbatim. It is worth noting that lead sheets are often transcriptions of tunes learned aurally and thus many lead sheets contain errors, inconsistencies, or variations of the original tune in both harmony and melody.[8]

Within the jazz community, often times the harmony or chords represented on the lead sheet are referred to as the "chord changes," or more simply the "changes." Chord changes refer to the chord progression of jazz standard. The term can refer to the chord progressions of the work as a whole or any segment of the chord progression, for example, "the A section changes" or "changes of the B section," or "the changes to Giant Steps." The melody of a standard is also often relabelled as the "head." Put differently, a lead sheet is comprised of both the "changes" and the "head" of a jazz standard. Furthermore, each iteration of the changes played in its entirety is often referred to as a "chorus." A common performance, then, would be for the performer(s) to take the "head in" (meaning to open the performance with the melody of the tune), then two or three "choruses" of improvising (the performer(s) improvise over the "changes" without the head), followed by the "head out" (to conclude with another iteration of the melody).

---

[8] The lead sheet provided and from which this study was framed was taken from *The Real Book*.

The final term needing definition is one that has already been used in our definition of a lead sheet: a “standard.” A standard is a musical work that is commonly played by jazz musicians, thus being associated with the common or “standard” repertoire of that genre. It may be better conceived of as a work that is part of the jazz repertory canon and often performed by other jazz musicians. Some standards that have found their way into the jazz standard repertoire include but are not limited to: “All the Things You Are,” “Autumn Leaves,” “Have You Met Miss Jones,” “Nardis,” “Confirmation,” “Fly Me to the Moon,” among others. “’Round Midnight” has established itself as a popular jazz standard throughout the years.

In sum, this chapter provides a brief review of the literature and terminology as well as a discussion about how this project came into fruition. The subsequent chapter discusses the theoretical framework that this project was built upon and developed.

Chapter 2 – Theoretical Framework

Voice leading has always been important in jazz improvisation and many scholars and musicians have explored different possibilities of both analyzing the voice leading or elaborating on it. This project uses a voice-leading model called “Top Lines” created through the “Law of the Shortest Way” which compile into the “Top Line Matrix.” Each Top Line is created by moving as little as possible from one chord tone to the next chord tone (with some exceptions) throughout the chord “changes.” For example, the first chord of a given standard might contain the pitch C, the second chord contain the pitches D, F, and A. Following the Law of the Shortest Way, we could create a Top Line starting on C and moving to D, the nearest tone in the second chord. Likewise, if the first chord contains the pitch E, we could create a Top Line by moving to F, the nearest tone in the second chord. The two Top Lines just created would combine to form part of the Top Line Matrix. We shall return to this formulation in a moment.

In essence, the Top Line Matrix lets the improvisor access any Top Line at any moment in their improvisation. Thus, in performance terms, the Matrix serves to catalogue the chord tones available to the improvisor at any point in time, where these chord tones are part of a voice-leading line stretching from chord to chord. This concept is markedly different than the customary explanation, where improvisation is held to involve simply picking any available chord tone from any part of the chord, regardless of voice leading. This means that, although some may think improvisation involves picking any available chord tone, this model demonstrates that it is part of a larger voice-leading line spanning throughout each chord. Often In analysis terms, the improvisation is then compared to the Top Line Matrix so as to demonstrate consistency, coherency, motive, and stylistic features in a given improvisation.

This thesis uses terms not frequently encountered in the literature of music theory. In defining our theoretical framework, we shall be forced to examine these terms. The greater part of the theoretical framework chapter, then, is given to defining terms as a vehicle for describing and illustrating the Top Line Matrix and the motivic approach derived from it.

Law of the Shortest Way

The "Law of the Shortest Way" is the foundation of the presented theory and everything from here on forth is extrapolated from this practice. The Law of the Shortest Way is Arnold Schoenberg's term for a common voice-leading practice which states that each voice should move as little as possible for optimal voice leading. Schoenberg discusses extensively in his writing that optimal voice leading is achieved through stepwise motion. For example, in the *Theory of Harmony*, Schoenberg writes:

> Each voice will take the smallest possible step or leap, and then, moreover, just that smallest step which will allow the other voices to take small steps. The voices will follow… "the law of the shortest way." Consequently, whenever two chords that are to be connected have a common tone, this tone will be taken by the same voice in the second chord as in the first – it will be 'sustained'. (Schoenberg 1983: 39)

The Law of the Shortest Way has immediate and direct application to jazz theory and improvisation. But as we shall see now, it has not been addressed at length in the literature.

Jazz Performance and the Law of the Shortest Way

Jazz performance, even when improvised, is heavily rooted in stepwise motion. This is especially true when connecting the ii-V-I chord progression that is so very abundant within the jazz repertoire. The little discussion of stepwise voice leading that does appear addresses voice leading in ii-V-I progressions found ubiquitously in the jazz repertory. The voice leading involved in this progression utilizes stepwise motion between the thirds and sevenths of the chords. The chordal seventh of the ii7 chord falls to the third of the V7 chord and the seventh of the V7 chord falls to the third of the I7 chord. The other guide tones are held as common tones between chords, that is, the third of ii7 becomes the seventh of V7 and the third of V7 becomes the seventh of I7. They are "sustained" to borrow Schoenberg's wording.

With this example, we can deduce the importance of stepwise voice leading—or voice leading using the "Law of the Shortest Way"— in the jazz repertory through the ii-V-I chord progression. The chordal third and seventh are the chord tones that designate the chord quality and are often the voices that contain any tendency tones. For this reason, jazz musicians often refer to the third and seventh as *guide tones.*

Beyond the "ii-V-I" paradigm, however, jazz scholarship has largely neglected the roll of stepwise motion in voice leading. Exceptionally, Dariusz Terefenko describes the importance of stepwise motion, claiming that "[t]he successful realization of harmonic progressions depends on good voice leading, which primarily relies on stepwise motion between guide tones and careful distribution of skips." (Terenko 2014, 113) (The question then becomes whether this negligence is simply because it is *assumed* that efficient voice leading is reliant on stepwise motion.)

If jazz theory has neglected the Law of the Shortest Way, jazz performance certainly has not. Called "tight" or "smooth voicing," it has been adopted by jazz accompanists as a means of setting an unobtrusive "pad" behind a soloist. Smooth voice leading in accompaniment does not interfere with a jazz solo, and thus it is sometimes referred to as "tasteful" or simply "tasty" by jazz aficionados.

Perhaps best known among jazz guitarists for the use of minimal movement in voice leading is guitarist Freddie Greene. Freddie Greene is best remembered as the guitarist in Count Basie's band. Greene was renowned for moving his small voicings as little as possible, and often only having one or two notes represent a chord as well as a "four-on-the-floor" type of rhythmic comping. This style of rhythm guitar playing comprises entirely of quarter notes with accents on the second and fourth beats. Allen notes that Greene often used one note to depict an entire chord and would connect "one-note chords" by moving as little as possible. (Allen 2002) He goes into details about the physical and musical benefits of voice leading in such a way. Allen writes:

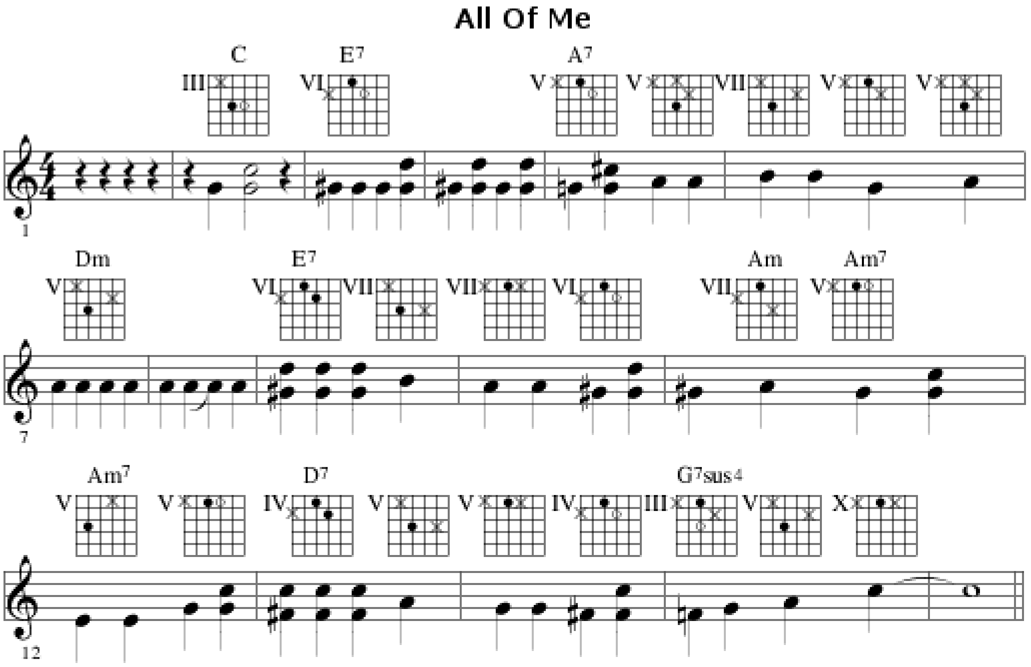
> Advantages of minimal chords [presented by Freddie Greene]:
>
> Physical/technical advantages:
>
> 1. They are easier on the fingering hand and wrist, especially for fast tempos and chord changes.
>   a) They allow the player to keep the same hand figuration across a variety of chord changes.
>   b) They require fewer wrist rotations to accommodate fingering inversions or other awkward fingering changes across chord types.
>   c) They allow the player to hit the one or two most important notes of the chord (in terms of the harmonic role of the rhythm guitar part) with greater reliability and clarity.
>
> Musical advantages:
>
> 1. Chord changes become less choppy, i.e., smooth chord transitions.
> 2. The chords themselves become less muddy. This can help the rhythm guitar presence be felt more strongly.
> 3. It is easier to keep the rhythm guitar's harmonic lines out of the way of other instrument's lines (in terms of pitch range). That is, with minimal chords, the guitarist can both stay out of a register that is already "too crowded" with bass and\or piano notes, or move into a register that needs filling out. (Allen, 1.)

Although Allen goes into detail about the physical advantages of small voicings moving as little as possible, he briefly mentions the musical advantages of Greene's use of the Law of the

Shortest Way. This is most strongly mentioned in the first example of the musical advantages where Allen notes that small voicings moving very little creates smoother chord transitions. Freddie Greene, a pioneer of big-band guitar playing, understood the importance of connecting chords through stepwise motion and utilized it frequently.

Figure 2.1 below shows Michael Pettersen's transcription of Greene on "All of Me" (Pettersen, 1978). The melody and one-or-two-note chords that Greene plays so consistently fit well within the Law of the Shortest Way and demonstrates its application in jazz performance. Interesting for our discussion here is the connection between chords. Greene begins his melodic comping on G, the fifth of the tonic chord C. He then moves up chromatically to the G-sharp, which becomes the chordal third of the E7 chord, a secondary dominant of vi. The next two measures present a stepwise ascent from G to B over an A7 chord. The point here is that Greene moves very little to between chords, typically by tone or semitone with the odd embellishing skip. Within the six measures discussed, the overall contour is of a major third. Furthermore, through his one-note-chords, Greene is typically targeting guide tones by navigating through the Law of the Shortest Way and isolating either the chordal third or seventh and connecting them through stepwise motion when possible. Between mm. 3-5, the G-sharp to G-natural, isolates the guide tone LIP 3-7.

Figure 2.1: Example of Freddie Greene Voice Leading


All Of Me
C
E7
A7
III
VI
V
V
VII
V
V
1
Dm
E7
Am
Am7
V
VI
VII
VII
VI
VII
V
7
Am7
D7
G7sus4
V
V
IV
V
V
IV
III
V
X
12

In Figure 2.1, there are often moments where Greene plays two notes. The fascinating feature about these two-note voicings is that they are also connected through efficient voice leading, that is, each voice moves with little movements. This, for our purposes, can be described as two separate Top Lines moving by the Law of the Shortest Way to create a compound melody in Greene's comping.[9] The reader should also note the upper Top Line in Figure 2.1 moves from the C in the second measure to D in the third measure over an E7 chord. If Greene followed the Law of the Shortest Way strictly, the C should fall to B over the E7 chord, the fifth of the chord. Instead, Greene chose to target the seventh of the chord—the guide tone, D—even though it was a larger interval than the fifth of the chord. The Top Lines work in a similar fashion, favouring the guide tones when applicable over the roots or fifths of the adjacent chord.

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[9] For a further discussion on the use of Top Lines to create compound melodies please see Chapter 7: Conclusions.

Freddie Greene demonstrates the usefulness of efficient voice leading through the Law of the Shortest Way in his big band guitar playing. Moreover, his use of one-note chords and little movements made for smooth voice leading and less intrusive guitar playing. In essence, Greene uses the same principles that have been used to create each Top Line and establishes a playing style around the use of and embellishment of Top Lines.

Parsimonious Voice-Leading Sources: Neo-Riemannian and Transformational Theory

The theoretical framework proposed here bears resemblance to recent developments in music theory not necessarily aligned with jazz. In certain regards, it resembles transformational theory and certain so-called "parsimonious" voice-leading models. The resemblance, however, goes only so far. Transformational theory as well as neo-Riemannian theory—and parsimony in general—deals with voice leading of *entire* chordal units, for example the relationship of triad to triad. In other words, parsimonious voice-leading models discuss the motions from one chord to another. The model proposed here, however, works with individual chord tones connected together as lines within the chord changes. It does not presume necessarily the presence of all tones of a chord, but instead concerns itself—in the form of Top Lines—only with parsimony between chordal parts. Nonetheless, parsimonious voice leading can illuminate features of the theoretical framework adopted here, and for this reason we shall examine it briefly.

There are several similarities between the proposed Top Line model and other models of parsimonious voice leading, the first of which is that they both tackle the same types of issues:

how single voices move as smoothly as possible to the next chord. Parsimonious voice-leading models such as this and neo-Riemannian theory, both deal with the Law of the Shortest Way, even if it is not addressed explicitly. In neo-Riemannian theory, the most common transformations still hold common tones when possible and the changing notes in each chord typically move to the closest subsequent chord tone; and so it is with the Top Line theory.

Neo-Riemannian theory uses a number of transformations, the most common of which are the parallel transformation (P), relative transformation (R), or the leading-tone exchange (L). "P for parallel, inverts around a horizontal (perfect fifth) edge, mapping C minor to C major; R, for Relative, inverts around a secondary diagonal (major third) edge, mapping C minor to Eb major; and L, for Leading-tone-exchange, inverts around a main diagonal (minor third) edge, mapping C minor to Ab major." (Cohn 1998: 170)

Put differently, the parallel transformation transforms a chord between parallel major and minors, thus "mapping C minor to C major." The relative transformation maps a chord onto its relative major or minor (C minor to E-flat major). The leading-tone exchange involves exchanging a triad for its leading tone. Put differently, the changing note acts as a leading tone to the subsequent chord. Thus, the G of the C minor chord acts as the leading tone to the subsequent chord, rising up to the A-flat while the other two chord tones remain constant.

With the examples provided above, we can see that neo-Riemannian theory is also rooted in the Law of the Shortest Way. The most common transformations involve moving one note of the triad by a semitone to create a new chord. If you move the root down a semitone, the result is the R transformation (C minor to E-flat major). If the third moves up by a semitone, the product is a P transformation (C minor to C major). Thirdly, if you move the chordal fifth up a semitone, the L transformation occurs (C minor to A-flat major).

The purpose here is to illustrate that the Law of the Shortest Way is commonly used within analytical models, as demonstrated through neo-Riemannian theory. Neo-Riemannian theory's most frequently used transformations all involve moving a single note either up or down a semitone. In this regard, neo-Riemannian theory is heavily rooted in the Law of the Shortest Way. However, all transformations above pertained to triads, where our study is largely embedded in seventh chords.

For the purposes of our theoretical framework, we shall concentrate on Adrian Childs's article (Childs 1998), where he discusses transformations using dominant and half-diminished-seventh chords. The application of transformational theory and parsimony in particular to successions of seventh chords is not common, especially where this is put to the analysis of popular music. In this regard, Childs's article is an exception, and serves here as a touchstone for comparison.

Childs demonstrates transformations in seventh chords that share two common tones. While a comprehensive summary of his article is beyond our scope, we can refer to an example therein, his Figure 5 (depicted below).

Figure 2.2: Child's Figure 5

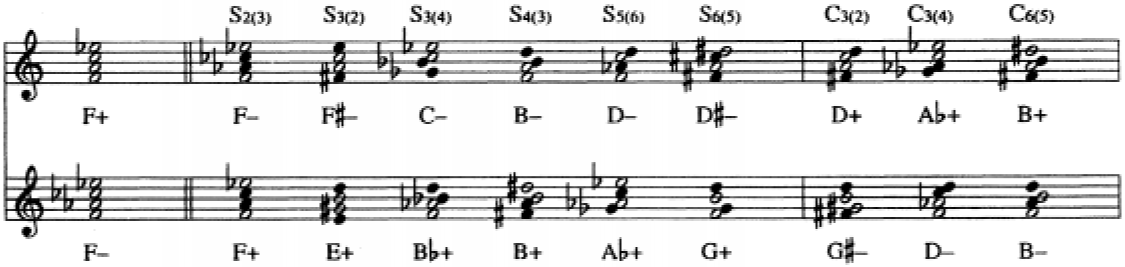

Figure 5. A system of transformations for dominant and half-diminished seventh chords (set class 4-27). + and – refer to dominant and half-diminished qualities, respectively. F+ and F– are taken as the initial chords in each example. Notes which are held constant have open noteheads, while those that move are represented by filled-in noteheads.

Childs shows the distance between the notes in parallel motion beside the transformation. He is working here with what he calls the S, or "slide transformation." In essence, he indicates the distance between the changing notes with a number in parentheses placed beside the parallel integer. We shall adopt a similar procedure. Thus, a ii-V becomes represented as S3(4). (Note that integers express distances in numbers of semitones: 4 indicates 4 semitones, not a diatonic perfect fourth.) For example, in the key of C, a ii7-V7 progression, the "3" represents the distance between D and F—the two common tones between D minor 7th and G dominant 7th. The "(4)" represents the distance between the notes of the second chord that are not held in common, thus the distance between G and B. These transformations are represented in the uppermost column in Figure 2.3.

Figure 2.3 demonstrates a parsimonious voice-leading model derived from Childs and applied to the changes to "'Round Midnight." The reader should note that not all the chord changes to "'Round Midnight" can be addressed with Childs's model, but only those where inversionally related seventh chords are connected. Childs's framework addresses only these types of inversionally related chords. Thus, in the first parsimonious chord change, C-fully-diminished-seventh is linked to A-flat minor 7th because of two common tones—G-flat and E-flat. The interval between G-flat and E-flat is (3), and the semitones between the remaining two chord tones of A-flat minor 7th, between C-flat and A-flat are likewise (3). Thus, the parsimonious chord progression is indicated as S3(3). The remainder of Figure 2.3 continues in the same regard.

This, in essence, demonstrates some of the same things that the Top Line Matrix represents. It shows the presence and number of common tones, in particular, and it draws attention to the chord tones that are not part of a common tone progression.

Figure 2.3 presents a clear depiction of parsimonious voice leading throughout the changes to "'Round Midnight." Worth noting are the several instances where there are two common tones.[10] In fact, there are two common tones the majority of the time. However, this is not representative of "'Round Midnight" in particular but of the ii-V-I progression as a whole, which Monk chose as the basic building block of the piece. The ii-V-I has two common tones between each of its members.

Monk's changes are set apart from other jazz standards by the rare but characteristic instances where there are *no* common tones. One might be able to better understand these as a transformation by transposition at the semitone. In other words, moving an entire chord up or down only a semitone, leaving no possible common tones available. This could be said to be one of the identifying characteristics of "'Round Midnight," which sets it apart from less adventuresome standards.

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[10] Common tones are identified with a dashed line.

Figure 2.3 has three separate readings presented on the following pages. The first (Figure 2.3(a)) presents a parsimonious reading of the A section. Figure 2.3(b) and Figure 2.3(c) both depict different readings of the B section. In Figure 2.3, the uppermost column represents transformations as depicted by Childs discussed above. The lowermost column shows the number of common tones between adjacent chords.

The difficulty of analyzing the B section from a parsimonious voice-leading perspective is presented in the two separate depictions of the B section in Figure 2.3(b) and (c).[11] There is an interesting dilemma presented here, which begs the question:

Which parsimonious voice-leading example is correct? Or at least *more* correct? The question, while rhetorical and impossible to answer, presents a classic dilemma of sacrificing the many for the few or the few for the many. The issue lies in the fact that for one voice to hold a common tone—which would be the smoothest possible voice leading in that voice—the other voices must all break the Law of the Shortest Way to have all chord tones represented. However, if that one voice breaks its common tone and in doing so breaks the Law of the Shortest Way, then the rest of the chord tones can continue with optimal voice leading. Yet another interesting feature worth noting are the instances in the changes where there are transpositionally inverted (or TI) chords. In "'Round Midnight," TI related chords—in this instance a dominant 7th chord and a half-diminished chord—tend to have no common tones with the successive chord.

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[11] There are also several instances where the Law of the Shortest Way is broken to maintain a complete unit, these moments are indicated with an Asterix.

Figure 2.3(a)

		S3(3)	S3(4)			S3(3)		S3(4)		S3(3)		S3(4)		S3(2)		S3(4)
Ebmin	**Co7**	**Abmin7**	**Db7**	**Cmin7b5**	**Bmin7**	**E7**	**Bbmin7**	**Eb7**	**Abmin7**	**Db7**	**Ebmin7**	**Ab7**	**Cmin7b5**	**B7**	**Bb7**	**Ebmaj7**
	C	Cb-------	Cb	Bb	A	G#	Ab	G	Gb	F	Eb*------	Eb---	Eb---------	D#	D---	D
Bb	Bbb	Ab-------	Ab	Gb---------	F#	E	F	Eb---	Eb	Db---	Db	C----	C	B	Bb--	Bb
Gb-----	Gb-	Gb	F	Eb*	D-------	D	Db-------	Db	Cb-------	Cb	Bb	Ab	Bb	A	Ab	G
Eb------	Eb-	Eb	Db	C	B-------	B	Bb-------	Bb	Ab-------	Ab	Gb-------	Gb---	Gb------	F#	F	Eb
2	2	2	0	1	2	1	2	1	2	1	2	3	2	0	2	

Figure 2.3(b)

	S3(2)			**S3(2)**			**S5(5)**	**S3(3)**		**S3(4)**				**S5(5)**	**S3(4)**
Cmin7b5	**B7**	**Bb7**	**Cmin7b5**	**B7**	**Bb7**	**Abmin7**	**Fmin7**	**Bb7**	**Cmin7b5**	**F7**	**Db7**	**Cb7**	**Abmin7**	**Fmin7**	**Bb7**
Bb	A	Ab	Gb---------	F#	F	Gb	F--------	F	Eb*--------	Eb	Db	Eb--	Eb-------	Eb	D
Gb---------	F#	F	Eb*--------	D#	D	Eb-------	Eb	D	C*---------	C	Cb--	Cb--	Cb	C	Bb
Eb---------	D#	D	C*	B	Bb	Cb	C	Bb---	Bb	A	Ab	Bbb	Ab-------	Ab-----	Ab
C	B	Bb---	Bb	A	Ab--	Ab-------	Ab-----	Ab	Gb	F-----	F	Gb--	Gb	F-------	F
2	0	1	2	0	1	2	2	1	2	1	1	3	2	2	

Figure 2.3(c)

	S3(2)			**S3(2)**			**S5(5)**	**S3(3)**		**S3(4)**				**S5(5)**	**S3(4)**
Cmin7b5	**B7**	**Bb7**	**Cmin7b5**	**B7**	**Bb7**	**Abmin7**	**Fmin7**	**Bb7**	**Cmin7b5**	**F7**	**Db7**	**Cb7**	**Abmin7**	**Fmin7**	**Bb7**
Bb	A	Ab	Bb	A	Ab-	Ab-------	Ab-----	Ab	Bb	A	Ab	Bbb	Ab-------	Ab----	Ab
Gb--------	F#	F	Gb--------	F#	F	Gb	F-------	F	Gb	F-----	F	Gb--	Gb	F------	F
Eb--------	D#	D	Eb---------	D#	D	Eb-------	Eb	D	Eb---------	Eb	Db	Eb--	Eb-------	Eb	D
C	B	Bb	C*	B	Bb	Cb	C	Bb	C*---------	C	Cb--	Cb--	Cb	C	Bb
2	0	0	2	0	1	2	2	0	2	1	1	3	2	2	

Note:

An asterisks (*) indicates a moment where the Law of the Shortest Way is broken to maintain a full chord voicing

As we have briefly seen, transformational analyses such as these can provide valuable insight into our analysis and our model as a whole. However, there are several ways in which both transformational and neo-Riemannian analysis differ from the model proposed. The first, which has been briefly touched upon above, is the fact that transformational and neo-Riemannian theory both utilize parsimonious voice leading to describe an entire chordal unit, whereas the model proposed here addresses voice leading of individual lines. These individual lines are in part divorced from their dependence on the other chord tones and do not observe the necessity to have all chord tones present.

Transformational analysis and neo-Riemannian theory are also typically used to analyze triads, but triads are rare in jazz harmony. Jazz harmony is often regarded as a chord-tones-above-root theory, which can include the seventh, ninth, eleventh, thirteenth, or any combination of them. It is rare for jazz harmony to comprise only triads, with the exception being the tonic triad at the beginning or end of a piece. For these reasons, it is difficult to analyze jazz by relying extensively upon transformational theory and neo-Riemannian theory.[12]

Neo-Riemannian theory differs from the model since it utilizes the equivalence of inversionally related chords. However, jazz music is based upon the theoretical tradition of chord tones above a given root. Thus, the performer often regards the harmony in terms of linear voice leading through extensions and resolutions rather than transformational and inversionally equivalent chords.

Lastly, another significant difference between transformational and neo-Riemannian theory lies is in the depiction of the chord changes themselves. The chord changes indicate not simply three or four notes in close vertical proximity, but rather (as noted above) they indicate a set of possible lines running from the bottom to the top of the instrument. In this regard, they correspond with the sense a jazz improvisor has of weaving a horizontal line through a grid of possible horizontal lines, rather than simply moving up and down successive sets of chord changes.

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[12] Childs 1998; Capuzzo 2006; Briginshaw 2012 offer some potential avenues for application.

To describe this fabric of voice-leading lines, I have created the term “Top Line,” to which we turn next.

Top Lines

Using the “Law of the Shortest Way,” potential voice-leading models are created called Top Lines. By the word “Top,” we do not necessarily mean that these lines are always on the top of the voice-leading texture. By “Top,” we mean instead that they could be produced by a soloist, and the accompanists (an accompanying or “‘comping” pianist, guitarist, or bassist) would hang chords usually below the soloist’s line (so as not to interfere with the solo line). Nor do we mean that there is only one truly “top” Top Line — one optimal expression of the voice leading inherent in any set of chord changes. Instead there are many potential Top Lines in any set of chord changes, and their number depends largely upon the range of the soloist’s instrument.

The Top Lines of our theoretical framework begin on each note of the tonic chord and follow the Law of the Shortest Way through the changing harmonies. That is, they move as little distance as possible or, if applicable, are sustained as a common tone. For our purposes, the tonic chord, while usually indicated as a triad, is often “extended” to encompass the seventh due to its frequent use in the jazz repertory.

Joseph Straus addresses the difference between a voice and a “lyne” noting that lines are “a series of notes, heard one at a time, that share some distinctive musical quality.” (Straus 1997, 242)[13] The qualities of which Straus is speaking consist of features such as register, instrumentation, dynamic, or attack. It is the similarities of the individual notes that cohere them into a line. This means that lines are dependent upon the contextual similarities that they share. Conversely, a voice is a “manifestation of an underlying pitch-class counterpoint.” Voices are generally more independent and can then maintain their integrity despite contextual disruptions which would disrupt a line.

With this in mind, Top Lines share qualities of both a voice and a “lyne.” Top Lines share the similar quality of being the uppermost voice in the improvisation at that moment, similar to a lyne. However, Top Line also employ octave equivalence, thus being exempt from the discrepancies that would typically dismantle a lyne. With this, it shares similarities with a voice. Consequently, a Top Line is reminiscent of both a lyne and a voice, situating itself somewhere in the middle and able to share positive qualities of both.

It should be noted that we have targeted, in creating the Top Lines, the *guide tones* of the following chord, that is, the thirds and sevenths. And accordingly, where necessary we have excluded the chordal fifth. This is largely due to the importance of the guide tones in the jazz repertory. Jazz musicians often refer to the third and seventh of the chord as guide tones since these are the notes that typically dictate both the chordal qualities (major or minor) and the voice leading (falling seventh, rising third).

At this point, we must note a particular problem inherent in the Law of the Shortest Way.

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[13] For our purposes, the terms lyne and line will be used interchangeably.

Instances arise where two chord tones of the following chord are an equal distance away from the preceding note, for example where the pitch D in a G chord could be voice lead to either E or C in a subsequent C chord. In these cases, we have decided to target the guide tones, as previously mentioned, so in the case just mentioned, we would prefer moving D to E (the third of the C chord) rather than to double the root C with the bass. The motion to E from D would be of more interest to us, since a jazz improvisor would see E as a more dynamic choice than the doubled C.[14]

However, in most instances where a chord tone could be followed by two equidistant tones, two separate Top Lines were created. We reserve the right (indicated by annotations) to break the Law of the Shortest Way so as to isolate chord tones that are more customary in the literature of jazz improvisation or to illuminate certain interesting linear intervallic patterns within the chord changes.

This results in there being six Top Lines in total in the changes to "'Round Midnight." All the other Top Lines in the Top Line Matrix are merely octave doublings of these six basic Top Lines. Figure 2.4 (below) presents the six Top Lines together for the first four measures of "'Round Midnight" as well as the bass line given from the lead sheet.[15]

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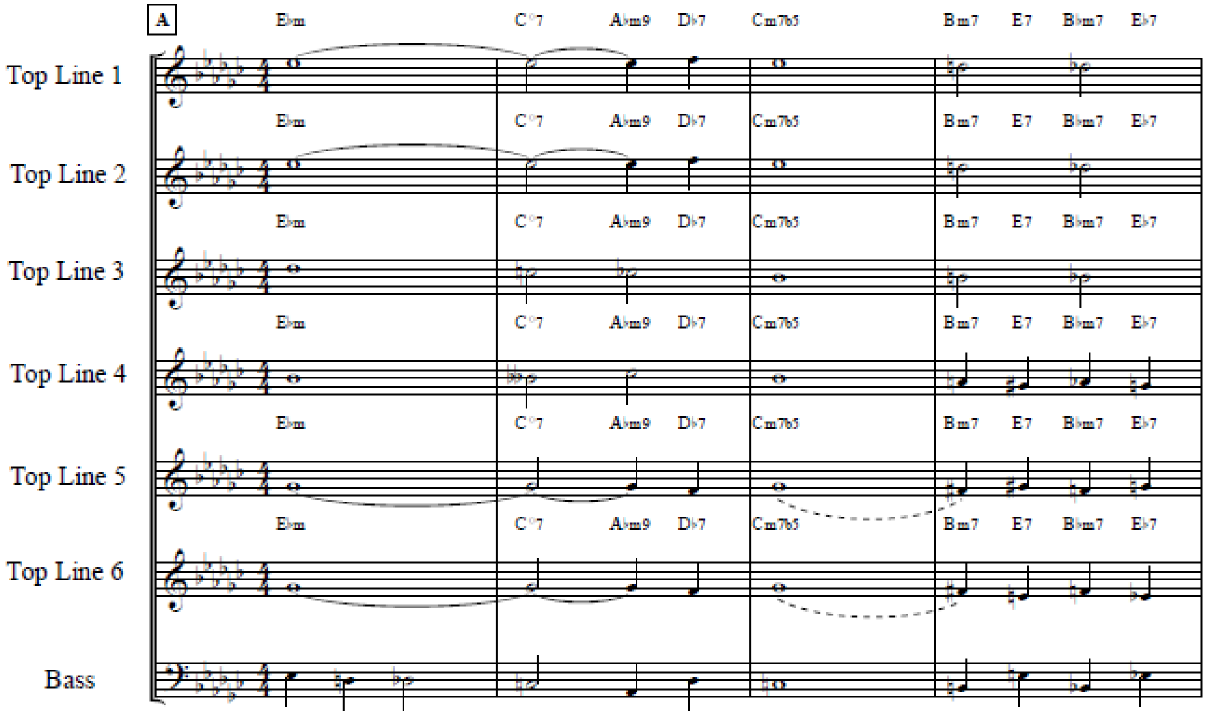
[14] This assumption is based on my experience as an improvisor.

[15] The reader should note that Top Lines 1 and 2 are identical at this point in the form, but deviate further in the chord changes.

Figure 2.4 – All six Top Lines (Top Line Matrix)


A
E♭m
C°7
A♭m9
D♭7
Cm7♭5
Bm7
E7
B♭m7
E♭7
Top Line 1
Top Line 2
Top Line 3
Top Line 4
Top Line 5
Top Line 6
Bass

An appropriate comparison for Top Lines would be the inner voices of a chorale, especially the alto and tenor voices. The alto and tenor voices in a chorale move smoothly through the harmonic changes, often in stepwise motion.

In essence, the Top Line provides a potential model of the voice leading within the jazz standard. In analysis, these Top Lines can be referred to separately. But more importantly, Top Lines can be analyzed in conjunction with one another through a matrix of Top Lines.

Top Line Matrix

The Top Line Matrix combines all Top Lines simultaneously. It is an abstract formulation, combining all the possible lines in one representation. As an abstract representation it is not meant to be heard but rather to serve as a representation of all the many possible voice leading paths an improvisor might follow.

The improvising artist can manipulate the Top Line Matrix by shifting from Top Line to Top Line at any given moment. With access to any of the Top Lines within the matrix, the Top Line Matrix demonstrates the determination of the Top Lines' potential in the chord progression of a given standard. It gives the improvisor access to all Top Lines simultaneously for a variety of possible lines. Perhaps most interesting about the Top Line Matrix is the ability to shift between Top Lines at any given moment. This gives the improvisor a network of possibilities to choose from and can manipulate the Matrix to create arpeggios and other musical features not found in any single Top Line.

In keeping with the chorale metaphor, if the individual Top Line represents an individual voice in the chorale, then the Top Line Matrix would then represent the fully harmonized chord with each separate voice working in conjunction simultaneously to produce a complete harmonic structure. With this the improvisor has access to the full range of the chord. Imagine an improvisor improvising with a chorale as a template. The improvisor can freely shift to and from each voice of the chord and create intricate lines by shifting registers and developing an interesting contour while maintaining smooth voice leading between succeeding chords, so it is with the Top Line Matrix. It gives the improvisor nearly endless possibilities for lines and provides freedom for intricate and complicated lines while maintaining cohesion to the standard itself.

Particles

When improvised music is compared to the Top Line Matrix, certain features which may have been previously concealed become illuminated. One example of this is the discovery of what we shall call here “Particles.” A Particle is a particular pattern of motion between various Top Lines as these that are available to an improvisor. For example, an improvisor might begin with three notes from one particular Top Line (in which case the voice leading would be smooth for three notes). Then they could leap to another Top Line and proceed for another three notes. The pattern would be voice leading smoothness interrupted by a leap followed by a resumption of smoothness. This simple pattern—smooth, leap, smooth—would become an audible moment, in effect a simple motive. In our analyses, we have found Particles of considerable complexity, where an improvisor moves rapidly between Top Lines, sometimes not stopping to connect subsequent notes smoothly. From this theoretical framework, motives are less sets of individual notes or intervals, but more a set of motions between Top Lines of a Top Line Matrix available to the improvisor.

Particles, then, are patterns, or “motives,” within the improvisation as their motivic content is expressed through reference to the Top Line Matrix. These Particles demonstrate recurring Top Lines at specific moments in the tune as well as recurring orders of Top Lines. Put differently, Particles describe patterns but rather than explaining them through chord relation or intervals, they are described through their relation to the Top Lines and Top Line Matrix. Particles demonstrate that certain improvisors are using a larger, more basic structure than the chord changes for departure in their improvisation and have preconceived Matrix-like ideas for improvisation at certain moments in the form.

Particles can occur at similar moments in the improvisation, for example the first two beats of every A section can be considered a Particle, if the improvisor emphasizes a particular pattern of shifts between Top Lines. (In the jazz lexicon, these are often called colloquially "licks," and they can be picked up and shared by many improvisors). Particles can thus be used to illuminate patterns and similarities within the improvisation through the Top Line Matrix. Analysis of this sort will demonstrate what we shall call "motives" in the improvisation, but through Top Lines rather than as combinations of notes or intervals.

The notion of Particles can be used to describe several features hitherto thought unrelated. They can be used to illustrate a point of departure, a motive, a set of voice-leading transformations, a preconceived idea, or perhaps lines inherent within the chord changes itself. As just noted, Particles repeated at key moments in a set of changes can illustrate consistency within one's improvisation.

The concept of a "Particle" can be called upon ultimately to provide a stylistic analysis. By illuminating Particles, one can see features commonly used by a given improvisor whether that encompasses a particular "lick" or a departure point. This can depict stylistic features of the improvisor. One type of style that will be addressed shortly is the "Lick Particle." This type of Particle uses the exact set of Top Lines or a close variation. This demonstrates that the improvisor has a set idea which they reiterate at similar moments in the improvisation.

A second type of stylistic feature depicted through Particles is the use of the same departure point by starting from the same Top Line, for example, at the beginning of each pass through the Head. By this, one can see that the style of the improvisor is less focused on using the same "lick" at similar moments in the form, but rather what different line can be created when departing from the same note. Thus, the concept of a Particle can act both as a product—a reiterated “lick”—or as a process, where one departs from or targets a certain tone. However, ultimately both forms of the Particle serve the same purpose of illuminating stylistic characteristics of the improvisor.

Now that the theoretical framework has been discussed and all terms have been defined, what follows is a way to apply this theoretical framework to improvised music, creating our theoretical framework for this project.

Chapter 3 – Methodology

In this chapter, the concepts of the Top Line(s) and the Law of the Shortest Way are illustrated at length with reference to actual music. In describing our methodology, we establish how these Top Lines are going to be used for analysis through the Top Line Matrix. This analysis will then lead us to consider consistencies and patterns found within the Top Line analysis—described above as Particles—and to draw primarily stylistic conclusions from a given improvisor's use of such Particles.

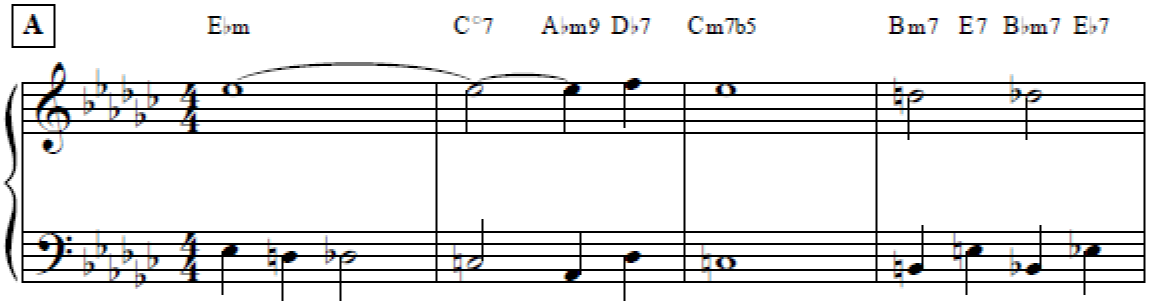
Top Lines

With the Law of the Shortest Way, Top Lines are created that act as potential voice-leading models throughout the changing harmonies of a jazz standard, in this case "'Round Midnight." Top Lines are lines found implicitly in the changing harmonies as voice-leading lines by moving as little as possible through the changing harmonic progression.

By means of Top Lines assembled into a Matrix we can compare these Top Lines to the real-time improvised lines. The Top Lines provide a foundation or several basic structural possibilities with which the improvisor can elaborate, adopt, or, as we shall see, combine. In essence, each individual Top Line acts as one piece of the whole, one brick in the wall that is the Top Line Matrix. Although each brick may be complete in its own right, it is strengthened when used with multiple other bricks to create something much larger than itself. When multiple pieces are combined and used in conjunction, the Top Line Matrix is created.

As stated previously, Top Lines are created by navigating through the changing harmony using the Law of the Shortest Way (while targeting guide tones when possible). To reiterate, the Law of the Shortest Way states that a voice should move by the smallest possible interval to create smooth voice leading between changing harmonies. Figure 3.1 shows the first four measures of what we shall call Top Line 1. In this and all subsequent examples in this chapter, we are using the chord changes from "'Round Midnight."

Figure 3.1 – Demonstration of Top Line, mm 1-4, 'Round Midnight



In Figure 3.1, we see that when possible the common tones are maintained and notated with a tie. (This should not be confused with the common notational practise of a tie representing a held note.) When a common tone is not achievable, then the Top Line moves through the Law of the Shortest Way either up or down to the closest note in the subsequent chord.

As noted above, there may arise a situation in which two equidistant notes present themselves. In our example, the E-flat rises to the F on the last beat of the second measure to accommodate for the D-flat-seventh. What is noteworthy about this moment is that the D-flat—the root of the chord—is an equal distance from E-flat as F. This is an instance when the guide tone, in this case the third of the chord F, is favoured over doubling the root, (which is represented in the bass).

In Figure 3.1 above, the Top Line begins on the tonic of the composition and the root of the initial chord. However, this need not be the case, but rather a Top Line can begin on any chord tone—including the seventh—of the initial chord, thus creating a network of Top Lines that begin on each note of the tonic chord extended to the seventh (this is shown below in Figure 3.2). This network of Top Lines beginning on each note of the tonic chord compile into what is referred to as the Top Line Matrix. There are a few instances worthy of mention in these brief four measures. The first occurs in m. 2 of Top Line 4. Note that B-double-flat, if following the Law of the Shortest Way strictly, should resolve to A-flat on the third beat. This would be a semitone below B-double-flat. However, in this instance the Law of the Shortest Way is broken to target the third of the chord, C-flat, which is a whole tone above B-double-flat. The second element worth mentioning concerns the broken ties that occur between mm. 3-4 in Top Lines 5 and 6. Recall that a tie indicates that the adjacent notes are illuminating common tones, the same is demonstrated through broken ties. However, due to the changing harmonies, the subsequent note is enharmonically respelled. Put differently, the broken slur illustrates common tones that are enharmonic equivalents.

It should be noted that, within the Top Line Matrix, there are often moments where several Top Lines converge onto a single Top Line. This is both fascinating and problematic. It is fascinating that several Top Lines—beginning on different chord tones—can arrive to the same chord tone at a given moment in the form.[16] In Figure 3.2, two lines come together, Top Lines 3 and 4, on C-flat on beats 3 and 4 of m. 2. (As noted above, this is to highlight the third of the chord.) These chords also share the note B-flat in the subsequent measure, before diverging in m. 4. This is produced simply by following the Law of the Shortest Way (and modifying it briefly so as to obtain the chordal third in the line).

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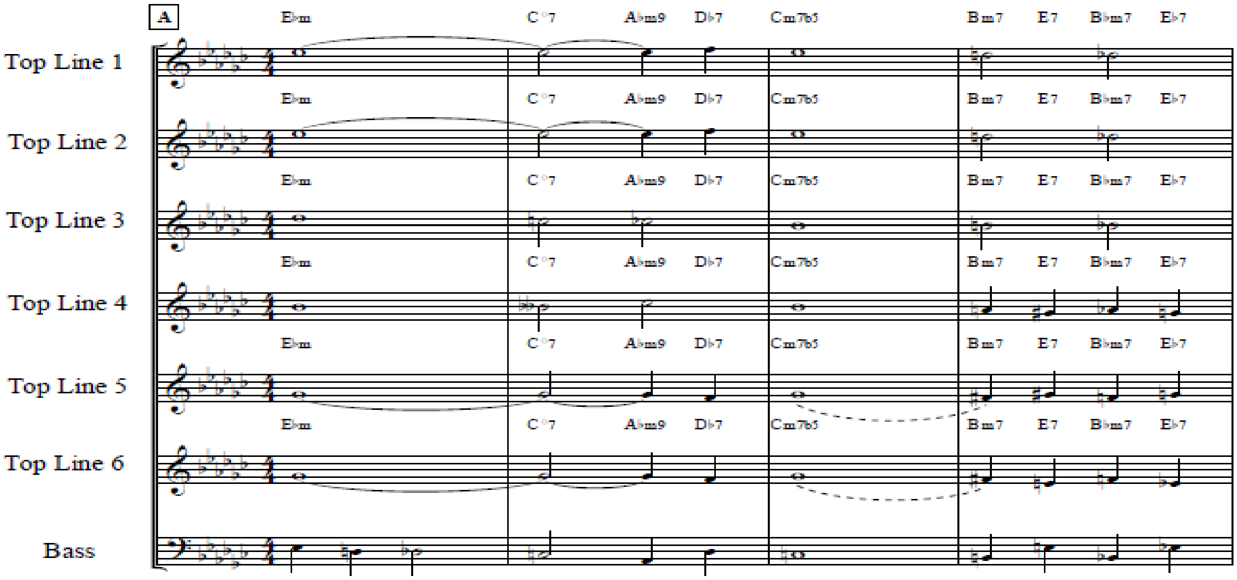
[16] These observations will be discussed further in the Conclusions chapter.

In occurrences where two or more Top Lines are representing the same chord tone, this sometimes means that there are chord tones absent in the Top Line Matrix at that moment. This can be problematic since the Matrix is not representing the chord in it entirety. In Figure 3.2, as noted above, Top Lines 3 and 4 converge on C-flat in m. 2, beat 3, which is the chordal third of a A-flat minor 7th chord. They are held over in both Top Lines as common tones to the C-flat chordal seventh of the D-flat 7th chord on beat 4. This means, however, that on beat 4 the fifth of the D-flat chord is not represented in the Top Line Matrix: in essence to get the guide tone motion from third to seventh in Lines 3 and 4, the fifth of the D-flat chord is sacrificed. This can be problematic since in such an instance the Matrix might not represent the chord in its entirety.

Figure 3.2 – Demonstration of Top Line Matrix

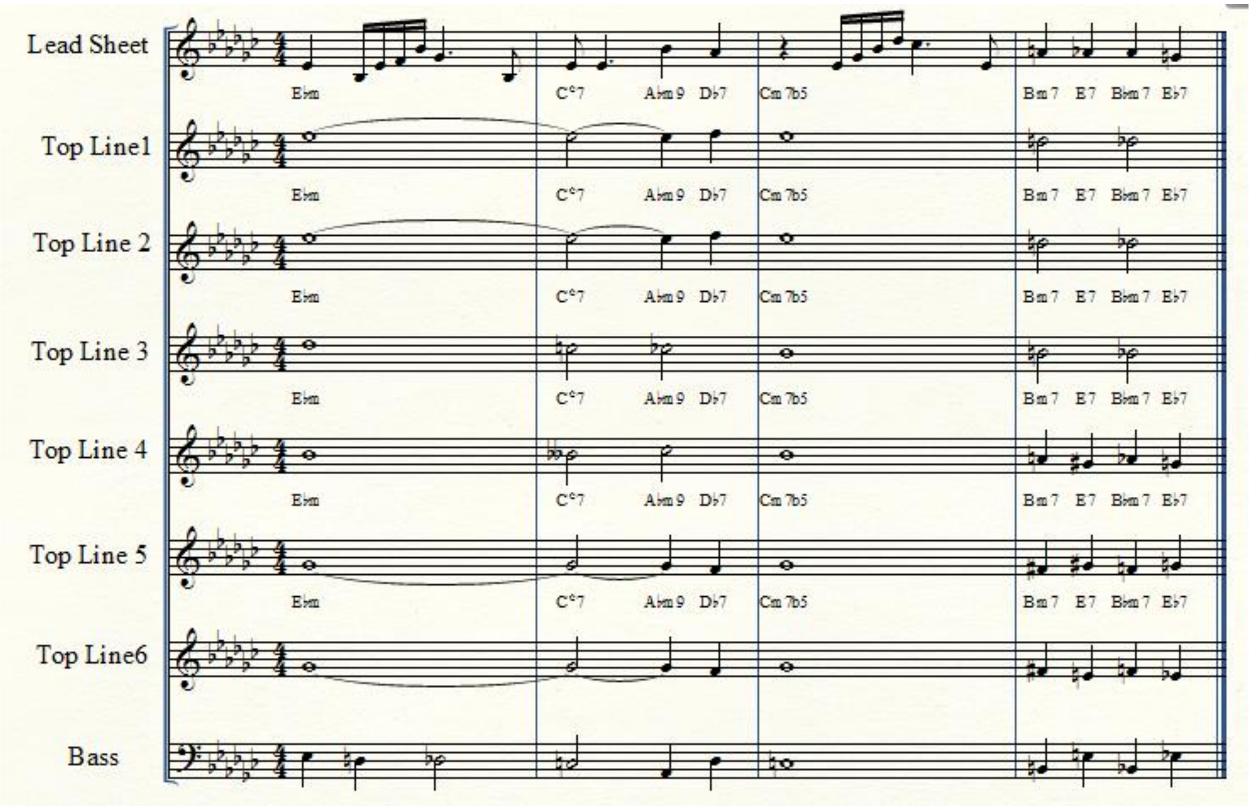


Stage 1: The Tabular Demonstration of the Top Line Matrix

The Top Line Matrix demonstrates the true potential of the Top Line theory, giving all the possibilities of each line at that particular moment in the form. This is demonstrated best in what is referred to as “Stage 1.” In “Stage 1,” all Top Lines are provided below the musical example to clearly depict the Top Lines’ progression and how they relate to the music and changing harmonies of every measure. In the uppermost staff on each page, we present the actual music—taken from the head or the solos—to be analyzed. In the staves below, we reproduce the appropriate measures of the Matrix. The bottom staff represents a bass line constructed largely from chordal roots with the occasional, idiomatic passing motion.

Demonstrating the Top Line Matrix in a clear depiction below the score, Stage 1 illustrates how the Top Lines react to the changing chords while showing how they relate to both the music being analyzed, as well as how the Top Lines relate to each other. Moreover, Stage 1 demonstrates the interconnection and coherence of the Top Line Matrix. Figure 3.3 shows an example of Stage 1 using the first four measures of the melody from “’Round Midnight” taken from the lead sheet. With this representation, the task of analyzing which Top Line corresponds with the notes of a given jazz solo becomes easier. It is important to remember that in these Top Line analyses, the Top Lines entail octave equivalence, meaning that any note with the same letter name can be treated as a member of a given Top Line regardless of register.

Figure 3.3 – Stage 1

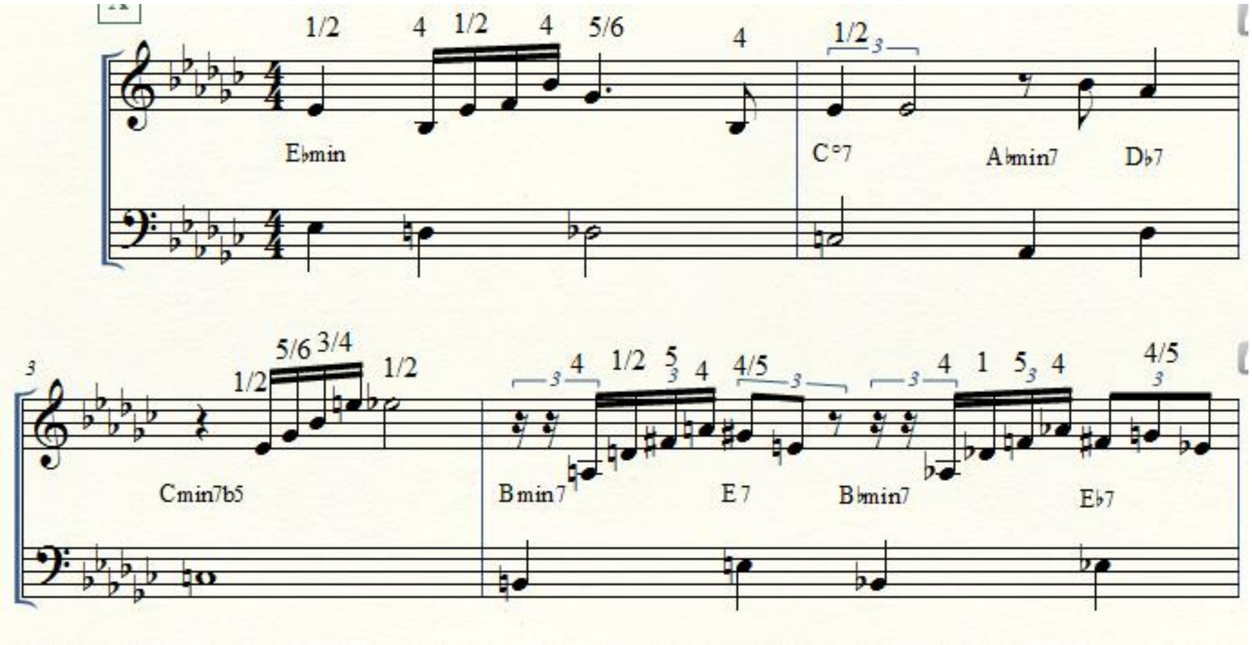

Lead Sheet
Ebm C°7 Abm9 Db7 Cm7b5 Bm7 E7 Bbm7 Eb7
Top Line1
Ebm C°7 Abm9 Db7 Cm7b5 Bm7 E7 Bbm7 Eb7
Top Line 2
Ebm C°7 Abm9 Db7 Cm7b5 Bm7 E7 Bbm7 Eb7
Top Line 3
Ebm C°7 Abm9 Db7 Cm7b5 Bm7 E7 Bbm7 Eb7
Top Line 4
Ebm C°7 Abm9 Db7 Cm7b5 Bm7 E7 Bbm7 Eb7
Top Line 5
Ebm C°7 Abm9 Db7 Cm7b5 Bm7 E7 Bbm7 Eb7
Top Line6
Bass

Stage 2: Applying Numbers to the Solo Line in Relation to the Top Line Matrix

In Stage 1, we saw that the whole Top Line Matrix was shown together with the actual music (the tune or the solo) being analyzed. This, however, can consume much space and can become tiresome to parse. With that in mind, Stage 2 was created (see Figure 3.4 below). "Stage 2" no longer shows the entire Matrix below the music but simply labels the Top Line(s) corresponding with the notes being analyzed at that moment. The Top Line(s) are labelled by means of the corresponding Top Line numbers above the appropriate note. Put differently, if the note corresponds with any Top Line within the Matrix, that Top Line is labelled above the note by its number. For example, if the note being played is equivalent to the note corresponding with Top Line 1 at that time, then “1” would be labelled above that note.

Since, as noted above, several Top Lines can join onto one note, several numbers can be written above the corresponding note. These are separated by slashes in the analyses. This inevitably demonstrates the complexity of the Top Line Matrix. It can become overwhelming with an abundance of numbers—which represent Top Lines—labelled all over the score. This abundance, however, becomes a blessing in disguise since it ultimately illuminates certain patterns, motives, or consistencies within the Top Line analysis of the improvisation. Once this step is complete, certain patterns in the Top Lines become readily apparent, which lead to the realization of Particles.

Figure 3.4 – Stage 2



Particles

Once Stage 2 is complete, and all corresponding Top Lines are labelled above the respective note, certain consistencies become illuminated within the solo. These consistencies are referred to as *Particles*. As described above, Particles are patterns within the music or improvisation as they can be expressed through reference to the Top Line Matrix. Put differently, Particles do not express the patterns in terms of chord relation or interval as most analyses of this sort would, but rather in terms of the numbers of the corresponding Top Line(s).

Previously I used the term *consistencies* to describe what Particles represent. While other terms such as patterns or motives suffice to explain what the Particle is expressing, I believe consistencies is a more apt description for trying to define Particles. Particles may become expanded or compressed quite dramatically and can be reduced from a five Top Line pattern to simply one Top Line. While this can be considered a basis of a motive or a pattern, it demonstrates consistency in the improvisation. Thus, I believe consistency is the best term to describe Particles, but motive and patterns may also be used to better understand a Particle.

Particles, then, are patterns or motives that occur within the Top Line Matrix as these are represented through Top Lines. Of particular interest to us are the Particles that appear at similar moments in the composition. That is, a Particle may occur in the first measure of every A section or the last measure of every B section. Once these are located, they can be isolated and compared with the lead sheet, both the melody and the chord changes.

Particles, as mentioned in the previous chapter, can illustrate a point of departure, a motive, transformations, a preconceived idea, or perhaps lines inherent within the chord changes itself. Particles illustrate consistency within one’s improvisation, in particular where these happen at similar moments of the form. This consistency could entail simply starting on the same Top Line, or it could be represented by using the exact same pattern of Top Lines. In other words, Particles could appear as a single recurring Top Line at a given moment in the form or they could appear as recurring successions of Top Lines in a particular order, a succession of recurring Top Lines with the order rearranged, or as a group of Top Lines in various orders. We shall observe these kinds of Particles in our analyses below.

Once a Particle is discovered, it is then put into a table such as Figure 3.5. Here the Particle can be compared with the melody of the head (in the uppermost staff, or with the bass line taken from the lead sheet in bottom staff). Particles are placed in order of appearance (in descending order in the figure) with the corresponding measure number beside. This gives a groundwork for comparison of the individual Particle within a solo. It also sets the groundwork for a comparison of Particles retrieved from different artists’ solos on the given piece. Particles can be analyzing through both musical notation and numbers, represented in Figure 3.5. It can also be done, however, by using simply a numeric table of Top Lines, as represented in Figure 3.6.

Figure 3.5 – Particles as notation with Top Line(s) noted above

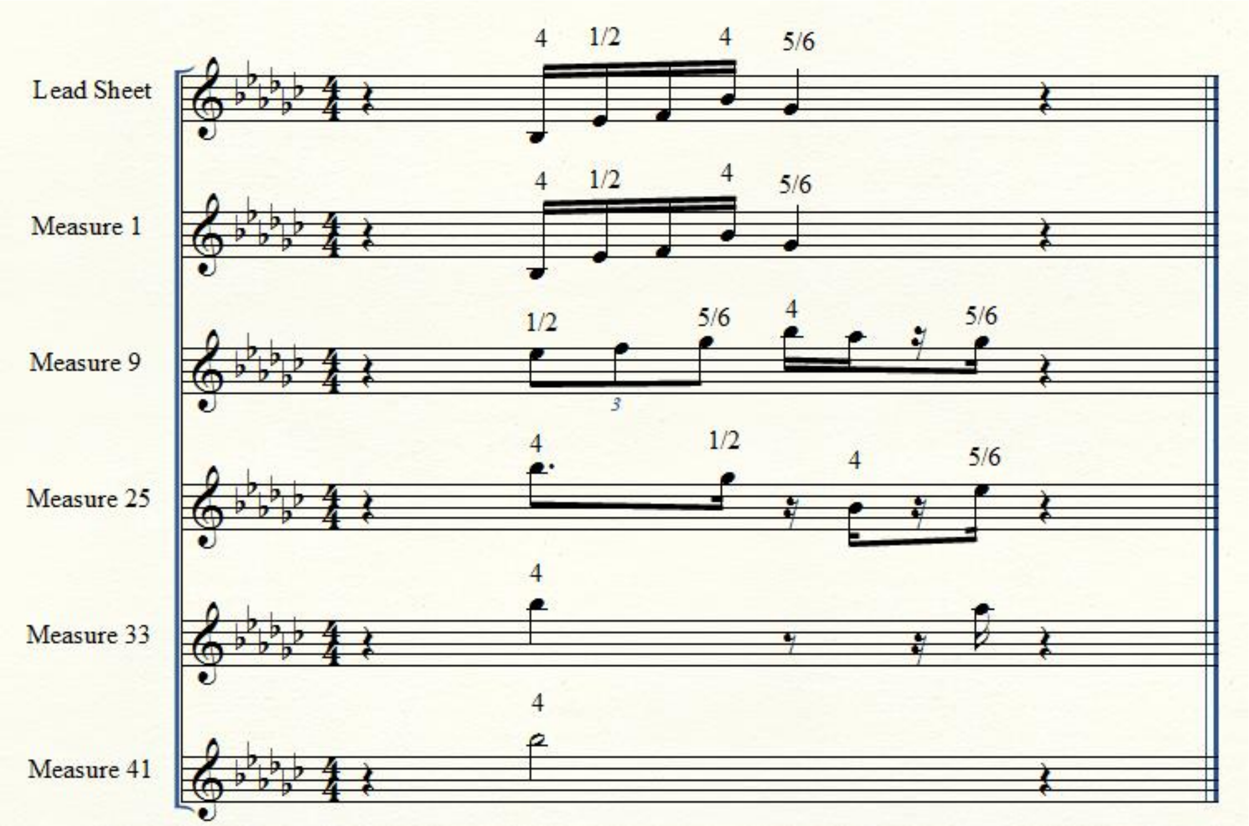
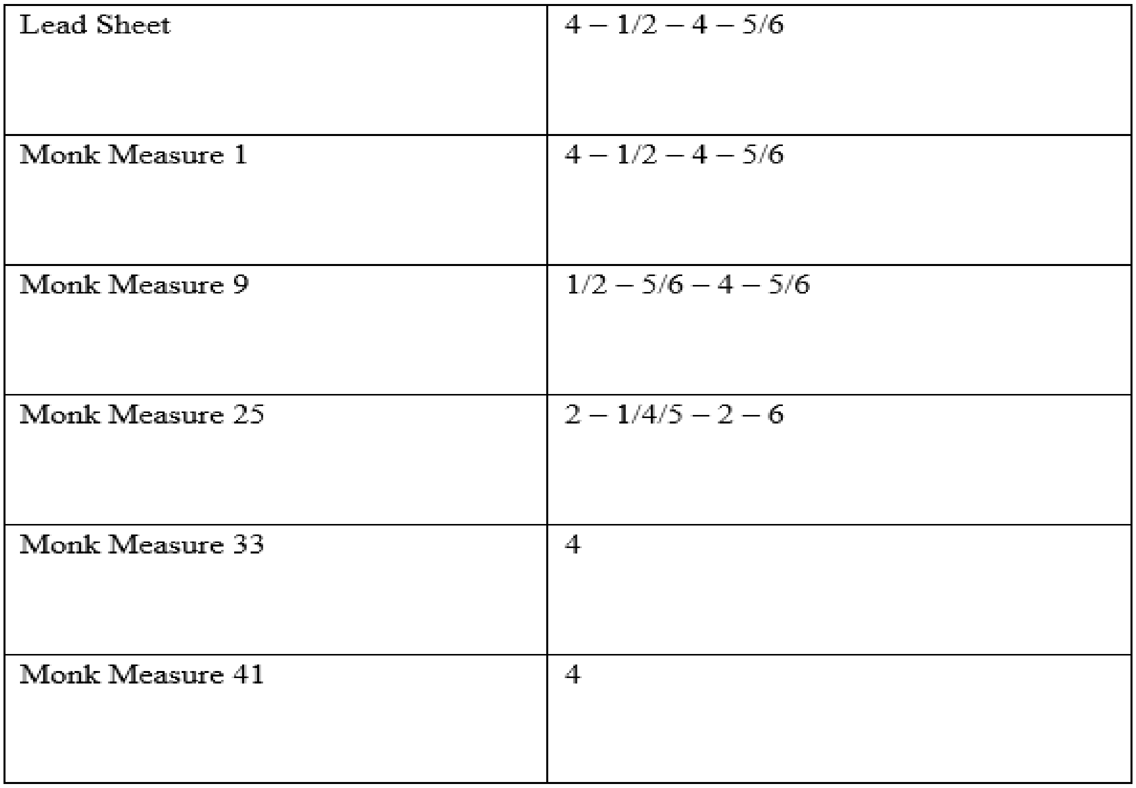

Lead Sheet
Measure 1
Measure 9
Measure 25
Measure 33
Measure 41
4
1/2
4
5/6
3

Figure 3.6 – Table of Particles as Top Line(s) only



Lead Sheet	4 – 1/2 – 4 – 5/6
Monk Measure 1	4 – 1/2 – 4 – 5/6
Monk Measure 9	1/2 – 5/6 – 4 – 5/6
Monk Measure 25	2 – 1/4/5 – 2 – 6
Monk Measure 33	4
Monk Measure 41	4

While both methods of representing Particles have benefits and limitations, ultimately, they both describe the same thing: a consistent pattern in the improvisation at this moment in the form.

Conclusion

In sum, the methodology of this thesis involves fitting any individual passage of music, taken either from the head or from the solos, into the perspective of the Top Line Matrix and illuminating any Particle(s) that may appear in the solo. The following four steps are the core of our methodology:

1. The determination of individual Top Lines implicit in the chord changes.

2. The compilation of these Top Lines in a Matrix.
3. Comparison of any given measure of the head or the solos to the Top Line Matrix implicit at that moment.
4. The description of a given passage as a Particles, as a consistent pattern between the lines of the Top Line Matrix.

In what follows, three separate analyses are presented, each approaching the concept of a "Particle" differently and ultimately demonstrating the stylistic features of the respective improvisor

Chapter 4 – Analysis of Thelonious Monk's "'Round Midnight" Solo from *Monk Alone: The Complete Columbia Solo Studio Recordings: 1962-1968* *(Transcribed by Arnaud Quercy)*

In this chapter I shall apply the methodology described in Chapter 3 to Thelonious Monk's solo rendition of "'Round Midnight." In this analysis, I am going to concentrate on Particles found within the head and the choruses of Monk's solo. More specifically, I am going to focus on Particles found within the A sections and demonstrate different types of Particles found within one's solo using Monk's improvisation as an example.

For this chapter, pages 18-32 of the appendices are particularly relevant. Pages 18-22 present Thelonious Monk's solo with Stage 2 Top Line integers given above the appropriate notes. The first two Particles are emphasized with squares to clearly demonstrate the nature of the Particle at the appropriate moments in the form, however, for the sake of cleanliness this is not done for every Particle. Instead a breakdown of each Particle is presented after the complete solo. Thus, for an isolated analysis of Particle 1 see pages 23-24; pages 25-26 show Particle 2; pages 27-28 show Particle 3; pages 29-30 show Particle 4; and finally, for Particle 5 please turn to pages 31-32 in the appendices. The reader should note that each Particle is presented over two pages. The former page of the two (as noted in the previous chapter) presents each Particle as musical notation with the appropriate Top Lines listed above. The latter page presents a chart of the Particle simply as the Top Line Numbers.

Prior to discussing Thelonious Monk's solo over "'Round Midnight" through the Top Line theory, it may be fruitful to discuss interesting features of this solo in a more general manner.[17] There are certain features of his solo that can be addressed without the Top Line theory, one of which is Monk's recurring iteration of E-flat. It becomes apparent that Monk is centering the first chorus of his improvisation around the tonic and using it as point of departure.

Beginning in the opening two measures of Monk's solo, the E-flat's importance is undeniable. It is clear that the E-flat is a desired note for Monk, beginning each measure with the E-flat in the same register. Furthermore, in the third measure of the solo, the arpeggiated ascent both begins and ends on E-flat, with a chromatic upper-neighbour to further accent the E-flat. In the fourth measure, the E-flat's recurrence begins to become slightly distorted, but traces of the E-flat remain audible with the E-natural near the end of the second beat which correlates the E-flat at the end of the fourth beat, both concluding their respective phrases. While a "blow-by-blow" analysis of every iteration of E-flat throughout this solo would be tedious and unnecessary, it is apparent within the preliminary four measures of Monk's solo that E-flat is an important note to either begin or end phrases. We shall see, however, that in addition to the tonic note, our Particle analysis will show the importance of the pitch B-flat at this moment.

The progression of the fourth measure of the A section is particularly interesting and raises several voice leading questions. These parallel ii-V's lend nicely to linear intervallic patterns (LIPs) and other voice-leading phenomena. The first occurrence of this progression in Monk's solo contains a 7-3 LIP. Interestingly enough each iteration of this progression features a LIP, although not always the same pattern. The second occurrence in m. 12 features parallel

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[17] Monk, Thelonious. "'Round Midnight." *Monk Alone: The Complete Columbia Solo Studio Recordings: 1962-1968. Columbia/Legacy* (transcribed by Arnaud Quercy)

10th's. These two LIP's, 7-3 and parallel 10th's, are the two most common features of voice leading as played by Monk through this progression.[18]

One particularly interesting moment with this progression occurs in m. 28. This moment contains an odd 7-8 LIP between the upper voice and the bass. There is also a parallel 10th's LIP that occurs with the bass and the middle voice.[19] This moment creates a resolution of each chord through transferring voices, which ultimately results in the odd LIP. The chordal seventh which typically resolves down by step to the third of the subsequent chord does indeed resolve down by step, however it resolves in the inner voice rather than the same voice. Instead the upper voice leaps up a fifth to the root of the subsequent chord. The result is an odd 7-8 LIP in the upper voice, a 10-10 LIP in the middle voice, but combine into a common 7-3 LIP, which is the impression given when hearing this passage.

Particle 1 - Monk

Particles serve as the epitome of the Top Line theory, illuminating patterns and consistencies which may have been previously concealed. To reiterate, Particles can represent a recurring order or patterns of Top Lines, a shift in the order of these Top Lines, or simply one Top Line that signals a point of departure, all occurring at similar moments in the form.

In Monk's solo, Particle 1 occurs within the first measure of every A section (see Figure 4.1). Moreover, Particle 1 occurs at a specific point in the first measure of every A section: on beats 2 and 3.[20] This Particle demonstrates that Thelonious Monk maintained a certain Top Line progression as a point of departure when arriving at the beginning of the A section.

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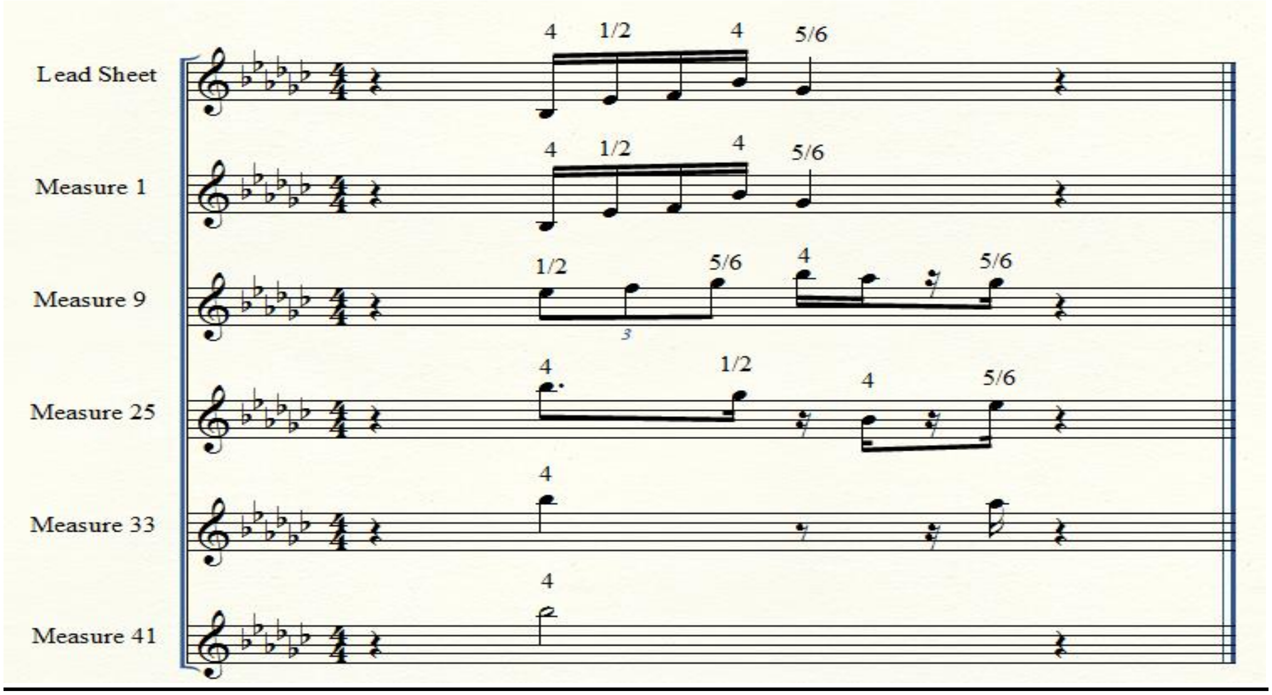
[18] A deeper analysis of this progression will be provided below in our discussion of Particle 2.

[19] For this reason, the inner voice is shown in the analysis but majority of our analysis continuing will only feature the improvised melodic line.

The Top Line pattern of 4-1/2-4-5/6 recurs numerous times in the second and third beats of the first measure of every A section. In m. 9, however, this Top Line progression is broken to produce a 1/2-5/6-4-5/6 Top Line progression. This is the deviant however since Monk returns to fragments of the first Top Line progression by simply reiterating the initial Top Line, 4. The next two occurrences of Particle 1 simply have Top Line 4 in isolation, with no other Top Lines in the measure. Figure 4.1 demonstrates Particle 1 with the Top Lines labelled above the notation.

Figure 4.1: Particle 1 – Thelonious Monk



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[20] Please note that this Particle may look familiar because it was also used to demonstrate Particles and how they are represented in the previous chapter.

While we can see that the second A section defies the norm, it still accents Top Line 4 with an ascent, making Top Line 4 the apex of the measure, ultimately giving it added significance. Furthermore, we see the return of the initial Top Line progression of 4-1/2-4-5/6 in the third iteration of the A section, reassuring the progression's dominance. Worth noting here is that the previous statement of this Top Line progression was based off the melody verbatim and contained passing notes, in the iteration however, the melody is abandoned as well as the passing notes, leaving Monk to play the Top Line progression in isolation.

Particle 1 shows the importance of Top Line 4. It is clear that at the beginning of every A section Monk has B-flat—or Top Line 4—as a note of importance. This is demonstrated first through beginning his progressions on Top Line 4, but also through repetition since Top Line 4 recurs in the Top Line progressions frequently. But perhaps more important is the constant reduction and elimination of all other notes and Top Lines until all that remains is Top Line 4, in the penultimate A section it is the only Top Line and in the final A section it is the only note altogether. It is clear that Monk is using his improvisation to reduce and simplify to accent Top Line 4, which is depicted through Particle 1.[21]

Particle 2 - Monk

Like Particle 1, Particle 2 (see Figure 4.2) demonstrates consistency in Monk's improvisation. Particle 2 appears in the fourth measure of every A section. This moment differs from the previous Particle since the harmony changes frequently rather than being stagnant like in Particle 1. Figure 4.2 below shows Particle 2 and all its iterations.

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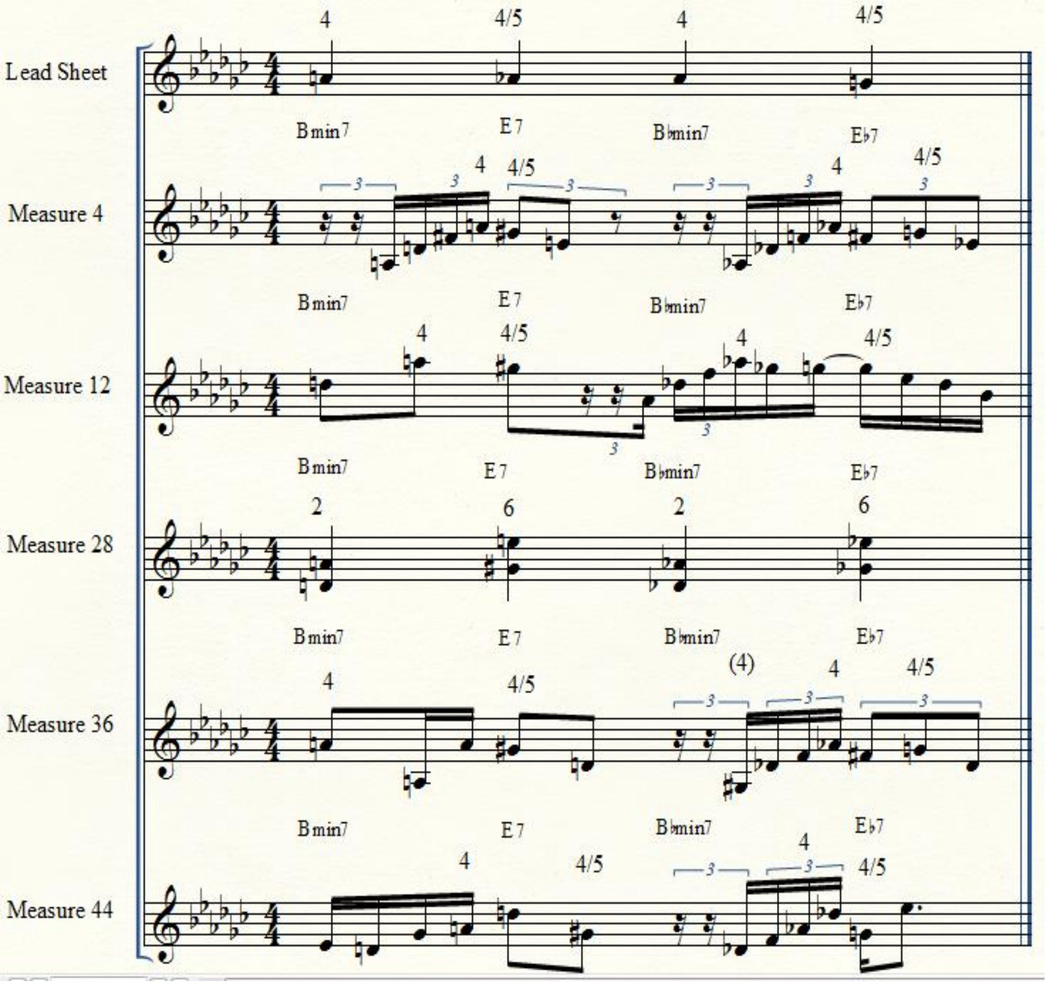
[21] Refer to Appendix Page 19 for a table of Particle 1 depicted as Top Lines only.

Figure 4.2: Particle 2 – Thelonious Monk


Lead Sheet
Measure 4
Measure 12
Measure 28
Measure 36
Measure 44
Bmin7
E7
B♭min7
E♭7
4
4/5
2
6
(4)

At this moment in the composition, there are consecutive chromatic ii-V's. With a chord appearing every beat, the improvisation will reflect the changes in harmony which differs from Particle 1 where the harmony was stagnant. This does not deter Monk from creating a Particle here. The recurring Top Line progression of 4-4/5 appears frequently in these measures. This 4-4/5 progression ultimately isolates the guide tones in this passage, focusing on a 7-3 LIP. It is clear that in this passage Monk is trying to isolate the guide tone connection, ultimately creating a 4-4/5 Top Line progression that creates Particle 2. The deviant in this Particle is m. 28, which has been discussed briefly above. Monk distorts the guide tone connection by displacing it throughout both voices, ultimately creating a different Top Line progression, but also remaining close to the guide tone progression. This is supported by the guide tones even resolving in the same register.

Particle 5 - Monk

Unlike Particles 1 and 2, Particle 5 demonstrates something different than the previous Top Line progressions (see Figure 4.3 below).[22] Particle 5 reveals the convergence of several Top Lines onto a single note. Perhaps more fascinating is how Monk targets the same note that several Top Lines converge upon.

If we look to the Matrix, we can see that in m. 5 four out of the six Top Lines unite to represent F over the Db, the third of the chord. The other two Top Lines meet on Cb, the seventh of the chord. In the lead sheet, the F is a target tone with an arpeggiated ascent which steps down and ultimately resolves on the third beat with the arrival of the Db. The length of this note also supports its importance compared to those that came before it. With each note of the arpeggiated ascent occupying an eighth note, the targeted F is given additional importance since it is a dotted-quarter note.

Monk's improvisation emphasizes the same note. In each iteration of this measure, the F is emphasized in some way and often is clearly target tone. In the first A section, the F is emphasized via a double-neighbour figure. This ultimately overpowers the fact that the F falls on a weak beat and the E-flat is on the downbeat, since aurally the listener hears the G-flat to F connection of the double-neighbour.

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[22] For the sake of brevity, Particles 3 and 4 will not be discussed in full length. Should one wish to view them in their entirety please refer to Appendix Pages 27-30

Measure 29 features similar characteristics, except the F acts as an upper-neighbour to the E-flat, but aurally the G-flat to F connection remains clear. Whatever the analyst's interpretation may be one thing remains of interest: Monk targets the same tone that several of the Top Lines converged upon. This may suggest something inherent in the voice leading of the changes that gives this note added emphasis, or it can simply be an attempt to accent the guide tones. [23] Whatever the case may be, this Particle demonstrates that F is clearly a target tone of both Monk's improvisation and the individual Top Lines.

Particles 5 also demonstrates another Top Line progression in addition to showing the target tone. This progression, 2/3-1/6-4/5-1/4/5/6-2/3-1/4/5/6-2/3, is reiterated in its entirety or becomes pared by omitting Top Lines. Even with the omissions, the Top Line progression maintains its general structure and order with a few omissions. If we compare the first iteration with the second, it becomes apparent that Monk maintains the same general structure but displaces the arpeggio to G-flat. What would have previously been Top Lines 4/5, is now displaced to the downbeat of D-flat 7th, eliminating it as a chord tone represented in the Matrix. Thus, this is reflected by the absence of these Top Lines in that iteration of the Particle, resulting in a slightly different progression without Top Lines 4/5 at the end of the A-flat minor 7th. Furthermore, in m. 29 we can see an increase in activity with Monk beginning the progression on 4/5 rather than 2/3 but continues with the progression from there. Therefore, even though there is deviation from the original Top Line progression of the Particle, there is still coherence with the order of Top Lines, albeit some are displaced or substituted.

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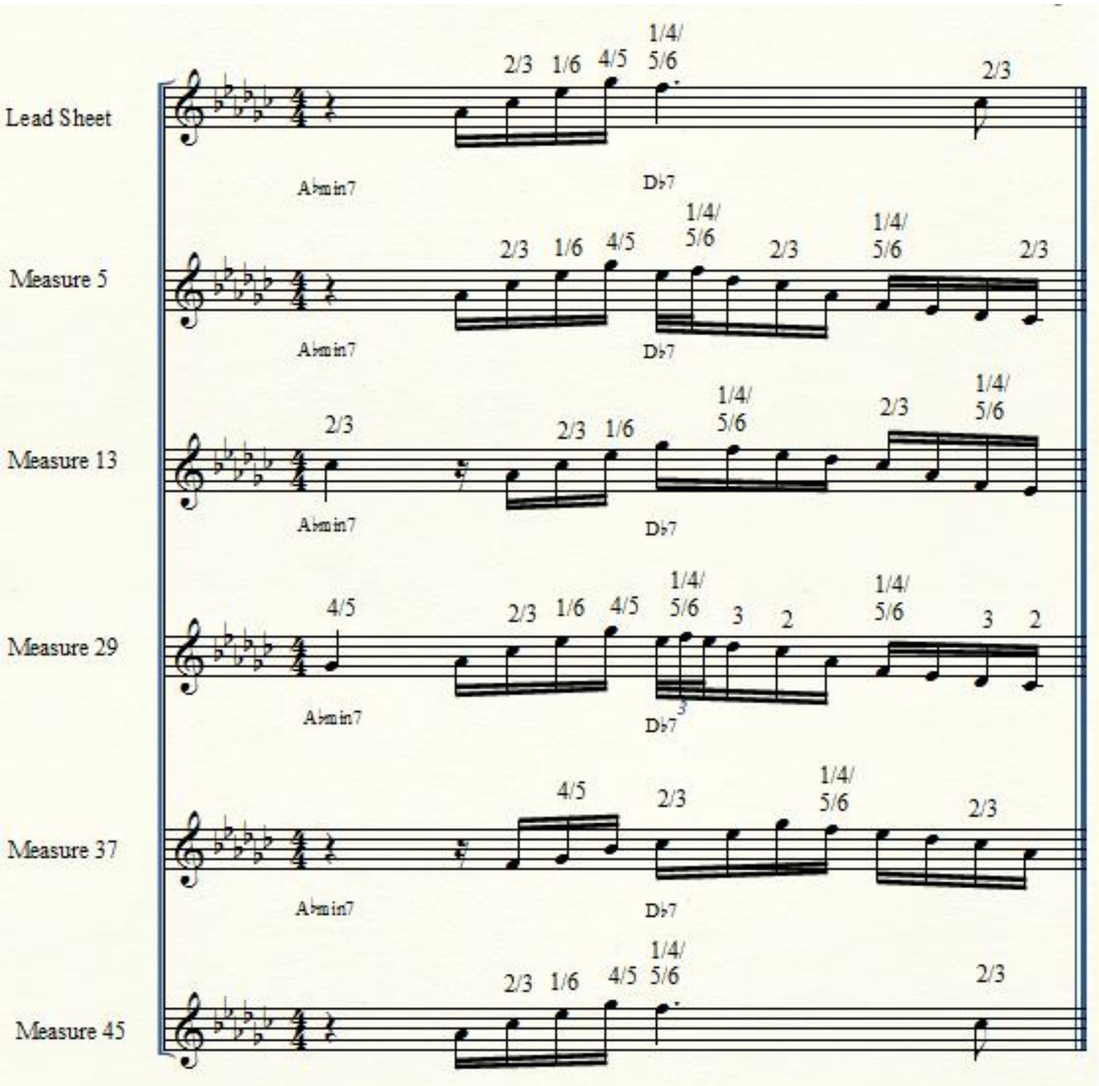
[23] This idea will be discussed further in Chapter 7: Conclusions

Figure 4.3: Particle 5 – Thelonious Monk


Lead Sheet
Measure 5
Measure 13
Measure 29
Measure 37
Measure 45
A♭min7
D♭7
2/3
1/6
4/5
1/4/
5/6
3
2

Conclusion

There are several important things to take away from the analyses of these three Particles: 1) Particles demonstrate a consistency in one's improvisation, as depicted through Top Line progressions of similar patterns.

2) Top Line progressions can be repeated verbatim, fragmented, expanded, or truncated.

3) Particles can also be used to illuminate lines imbedded in the changes themselves, especially where these involve guide tone progressions.

4) Particles can illuminate a convergence of Top Lines upon one given note, which can act as a target tone for the improvisor as well.

5) Finally, Particles can help show points of departure and perhaps a deeper fundamental tone that the improvisor is targeting or embellishing. Whatever the case may be, the analysis of these Particles illuminates several fascinating features in Thelonious Monk's improvisation

Chapter 5 – Analysis of Gerry Mulligan's "'Round Midnight" Solo from *Mulligan Meets Monk: Riverside Records 1957 (Transcribed by Andrew Hadro)*

In this chapter I shall continue to apply the methodology described above to Gerry Mulligan's version of "'Round Midnight." In this analysis, I am going to concentrate on Particles found within the head and the choruses of Mulligan's solo and hope to illuminate similarities between Monk and Mulligan while also addressing stylistic differences in their playing through the use of Particle analysis.

For this chapter, please see pages 33-42 of the appendices. Pages 33-36 present Mulligan's solo with the Top Lines given above the appropriate notes, similar to the analysis in the previous chapter. Pages 37-38 presents an analysis of Particle 1; pages 39-40 show Particle 2; and pages 41-42 present Particle 3.

The Top Line theory, however, does not always fit so tidily into lick-type Particles like those demonstrated in the previous chapter. Occasionally, the Top Line theory can demonstrate a ground for departure rather than a pattern illustrated by the improvisor. This difference speaks to aspects of the performer's individual improvisation and the stylistic features of each performer. In Thelonious Monk's improvisation on "'Round Midnight" the Particles were often a series of Top Lines found in similar sequences and patterns at specific moments in the form. Gerry Mulligan however, takes a different approach.

The transcription of Gerry Mulligan’s improvisation is notated differently than the others. In the Gerry Mulligan transcription every two measures is equivalent to one measure of the lead sheet. The result is a 64-measure form that expands the original 32-measure form. Also, since Mulligan plays the baritone saxophone, a transposing instrument, the original transcription is originally in the key of C minor the equivalent of E-flat minor for baritone saxophone.[24] For simplicity, I have transposed this solo to the concert pitch of E-flat.

Particle 1 - Mulligan

As previously stated, the analysis of Gerry Mulligan’s improvisation on “’Round Midnight” reveals different features of the Top Line theory than the Particles found in Monk’s improvisation. While both are labelled “Particles,” the composition of each artist’s Particles are quite different.

Recall that we define Particles as consistency in one’s improvisation at similar moments in the form. In the Thelonious Monk analysis, the Particles represented a certain pattern of Top Lines (also referred to as a lick) that appeared consistently or became truncated throughout the performance illuminating consistent Top Line patterns and target notes at specific instances in the form. The analysis of Mulligan’s improvisation depicts different consistencies, still adhering to the definition of “Particles” but separating itself from the types of Particles found in the Monk solo.[25] Figure 5.1 demonstrates the beginning of every A section in Mulligan’s solo. From this comparison we can make a reasonable assumption that Top Line 4—B-flat— is a point of departure for his phrase over the beginning of the form.

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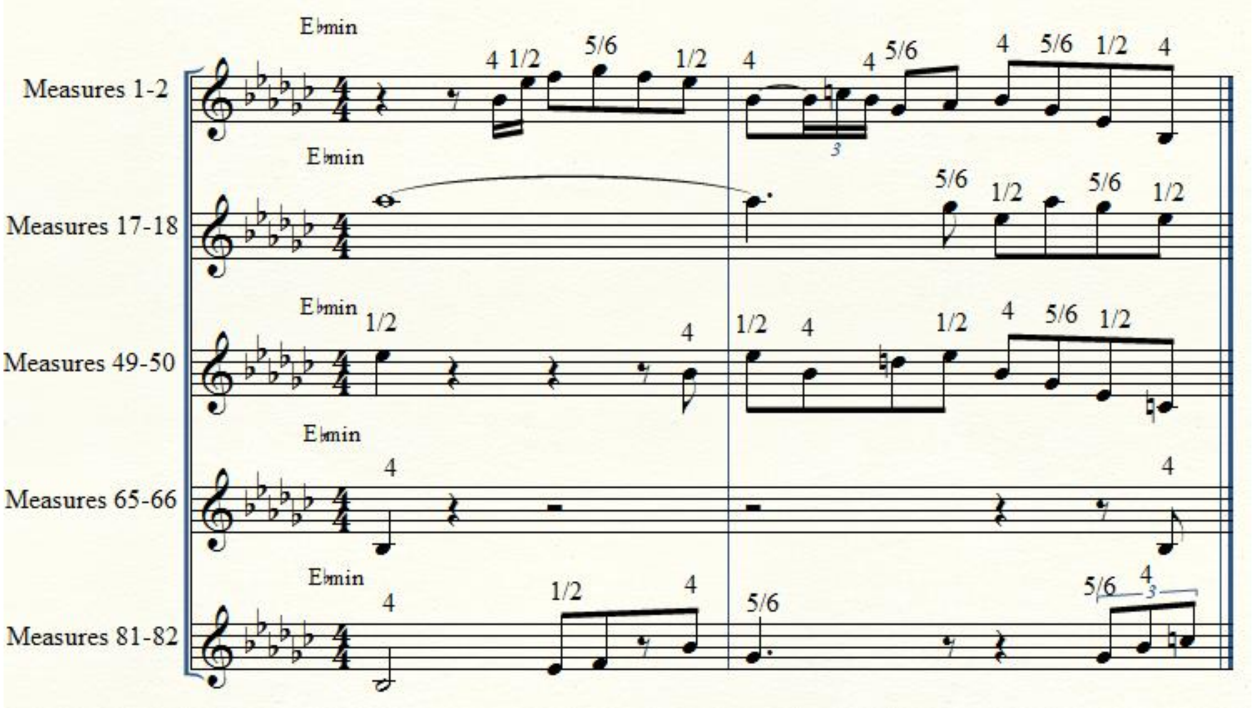
[24] Mulligan, Gerry. “’Round Midnight.” *Mulligan Meets Monk: Riverside Records. 1957 (Transcribed by Andrew Hadro)*

[25] This raises the issue of different “types” of Particles that will be addressed in the Conclusion chapter

Figure 5.1: Particle 1 – Mulligan


Measures 1-2
E♭min
4 1/2
5/6
1/2
4
4 5/6
4 5/6 1/2 4
3
Measures 17-18
E♭min
5/6
1/2
5/6
1/2
Measures 49-50
E♭min
1/2
4
1/2 4
1/2
4 5/6 1/2
Measures 65-66
E♭min
4
4
Measures 81-82
E♭min
4
1/2
4
5/6
5/6 4
3

Note the importance of the connection between Top Line 4 and Top Lines 1/2, B-flat and E-flat. This feature is motivically connected with the opening notes of the head, which Mulligan is developing further in his improvisation. This, although does not contain enough to be considered a Particle on its own, it can be described as "Particle-like" or a pseudo-Particle. Since the Top Line connection is consistent, it resembles the makings of a Particle however the metric placement of it is not consistent and it does not always fall within the same small section of the tune. Furthermore, the connection is only between three Top Lines depicting two individual notes, meaning it does not have the depth of the Particles previously presented. Thus, it would be implausible to call this connection a separate Particle due to the lack of specificity this connection presents.

Particle 2 - Mulligan

The C-fully-diminished 7 chord also raises important observations. There is an emphasis on Top Line 4, serving as another example of a departure point as a Particle demonstrated through the Top Line theory (see Figure 5.2). What is interesting here, however, is the connection between the first two measures and this one.[26] Recall that Top Line 4's importance was also clear in Mulligan's first Particle over the E-flat in the first two measures. It seems that Mulligan is connecting the first two measures over E-flat, and the C-fully-diminished-seventh in the third measure via Top Line 4. This illustrates that, rather than thinking locally in his improvisation, Mulligan is using larger voice-leading connections—those similar to the Top Lines created—to aurally connect measures smoothly.[27]

Figure 5.2 presents a Particle table showing the third measure of the form. With this comparison it becomes evident that Top Line 4 has significance to Mulligan and is a point of departure—much like Top Line 4 was in the previous measures— and demonstrates consistency in Mulligan's improvisation.

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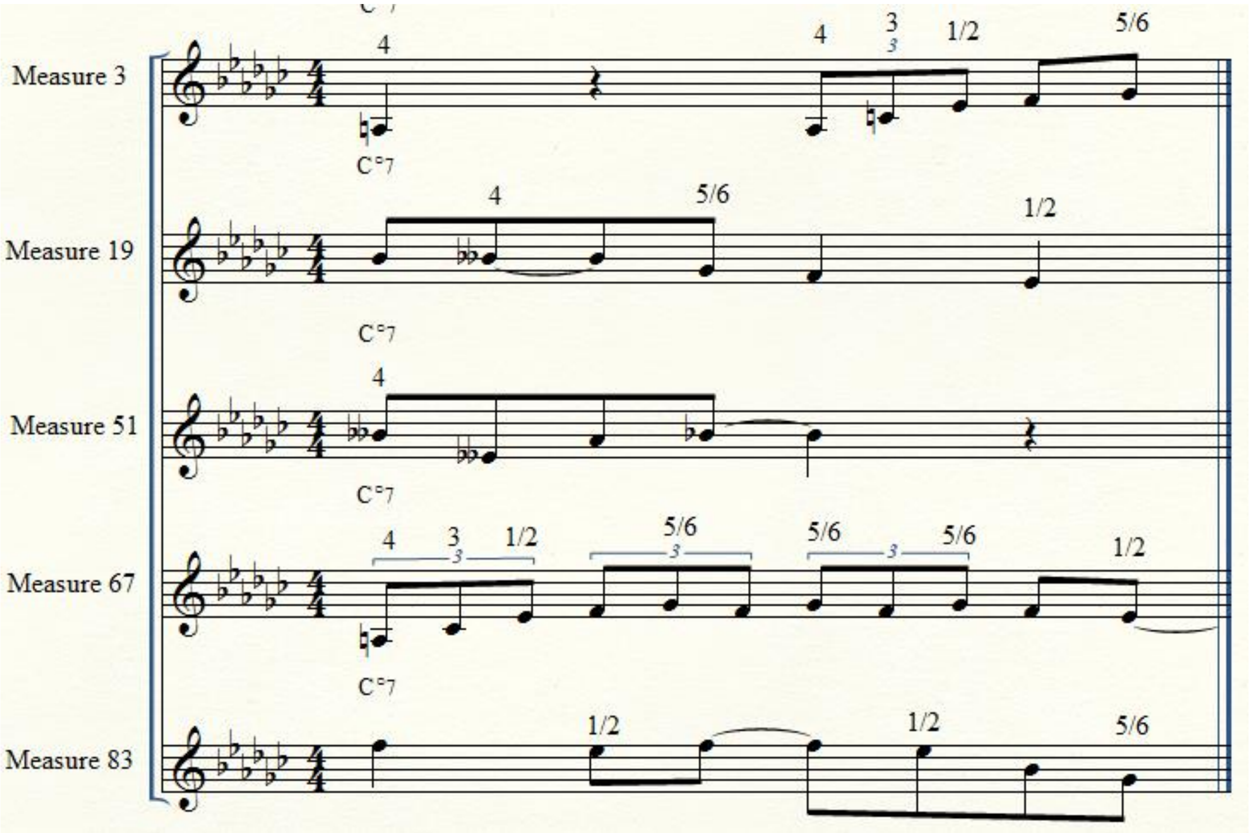
[26] Recall that this transcription is notated in twice the space typically on the lead sheet and other performances. That is to say, the first two measures represent only one measure on the lead sheet.

[27] These larger structures can also be compared to Schenker's *Ursatz,* but a further discussion of this comparison is beyond the scope of this paper.

Figure 5.2: Particle 2 - Mulligan



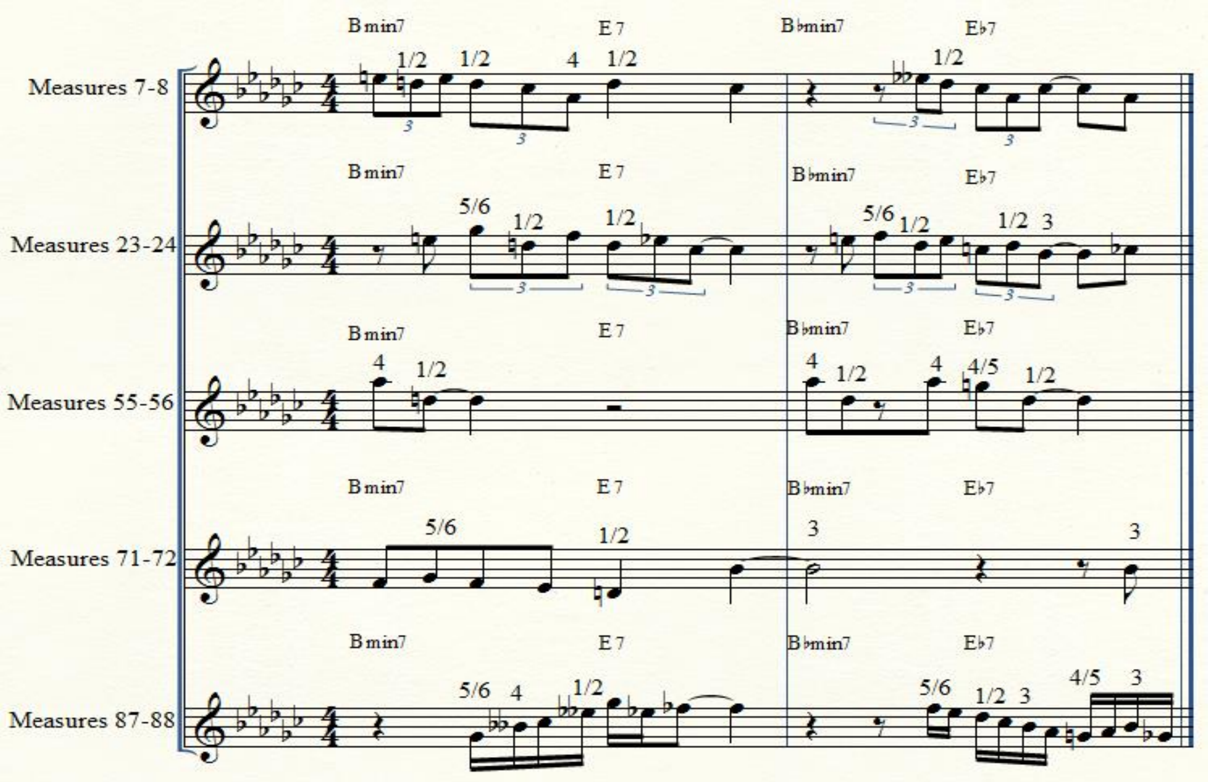
Note that the majority of the improvised lines begin on Top Line 4 or lead into Top Line 4, but each iteration departs in a different direction, never repeating the exact same idea twice. This makes labelling this section a Particle problematic, since the only consistency is beginning on and departing from Top Line 4. In the previous examples we have seen, Thelonious Monk maintained consistency with his Top Lines, the order, and fragmented the Particles but there was enough repetition to justify labelling them Particles. Here may be a different story. Can departing to/from the same Top Line so consistently warrant the label of a “Particle”? If we stick to the strictest definition of Particles—consistency in one’s improvisation— then yes. However, it may suffice to say that Mulligan’s playing here is “Particle-like” in that it resembles the consistency of a Particle by starting each phrase with the same Top Line, but the justification of calling it a Particle may be a little overreaching since that is the *only* consistency.

Particle 3

Similar features can be seen in Figure 5.3 below. This section of the form—a section we have seen in our previous chapter with Thelonious Monk—lends nicely to Particles and common voice-leading connections due to the chromatic ii-V. However, Mulligan never plays the same line, nor does he draw clear connections between these measures.

However, certain “Particle-like” features do arise. The connection between Top Line 4 and Top Lines 1/2 appears frequently, the importance of Top Lines 1/2 becomes apparent, and beginning a phrase on Top Line 5/6 is rather consistent. All these features provide consistency in Mulligan’s improvisation, but not to the degree of labelling them a Particle. It can be deduced that Mulligan is trying to maintain consistency in his improvisation, but not repeat the same patterns over certain moments in the form. Rather, he is “blowing” over the changes with certain target notes in mind. These target notes become the consistencies, the points of departure, or the interplay between certain Top Lines that resemble features of a Particle but may not fully represent the lick-type Particle so clearly represented in Monk’s playing. Thus, this speaks to the stylistic differences between Monk and Mulligan’s improvisation. While Mulligan seems to avoid playing the same idea twice, it seems that Monk preferred to reiterate the same lick on numerous occasions.

Figure 5.3: Particle 3 - Mulligan


Measures 7-8
Measures 23-24
Measures 55-56
Measures 71-72
Measures 87-88
Bmin7
E7
B♭min7
E♭7
1/2
4
3
5/6
4/5

Conclusion

In sum, the analysis of Gerry Mulligan’s improvisation illuminates important features in the Top Line theory. Firstly, the Top Line theory can be used to demonstrate points of departure in one’s improvisation over a certain section of the tune or a certain chord. Secondly, it can be used to see larger connections between chords in one’s improvisation through distant Top Line connections. Finally, Mulligan’s improvisation raises the notion of “Particle-like” which can encompass certain consistencies of a Particle but not to the degree of justifiably labelling it a separate Particle. Whatever the case may be, it is clear that analysis through the Top Line theory and discovering consistencies—whether we choose to label them as Particles or not—can enrich one's analysis and aid in extrapolating certain stylistic features of the improvisor.

Chapter 6: Analysis of Montgomery's Solo on "'Round Midnight" From "Wes Montgomery: Live in Belgium 1965" (Transcriber Unknown)

In this chapter, I shall analyze Montgomery's solo on the changes to "'Round Midnight." Within this analysis, I will demonstrate that artists often vary the type of Particle they choose to use, often exploring multiple types of Particles. That is to say, if we consider the "lick" Particle as one type of stylistic playing and the "departure-point" Particle as another, artists often are found in the grew area between the two, merging both styles into a hybrid style of playing. This shall be demonstrated through the analysis of guitarist Wes Montgomery.

Similar to the previous chapters, the Appendix presents the entire solo first with the Top Lines given above the corresponding notes (pp. 43-50), followed by two pages for each Particle. Thus, Particle 1 is found on pages 51-52 of the Appendix, and Particle 2 is found on pages 53-54.

To recapitulate our analyses thus far, we have seen the Top Line theory be applicable for identifying recurring patterns of Top Lines, help identify points of departure, and aid in illuminating large-scale connections. The two previous analyses of both Monk and Mulligan provided two sides of Particles and the Top Line theory. Monk, who seems to be very Particle-driven, returns to a certain pattern at similar moments in the form. Mulligan, who does not have any particular pattern in the Top Lines apparent, uses the Top Lines as points of departure to bring coherence to his improvisation on a larger scale. Although these two performance practices may seem to work in opposition, it is the contrary. What follows is a third analysis, this time performed by Wes Montgomery, who seems to blend both approaches proposed in the previous chapters.

Particle 1 - Montgomery

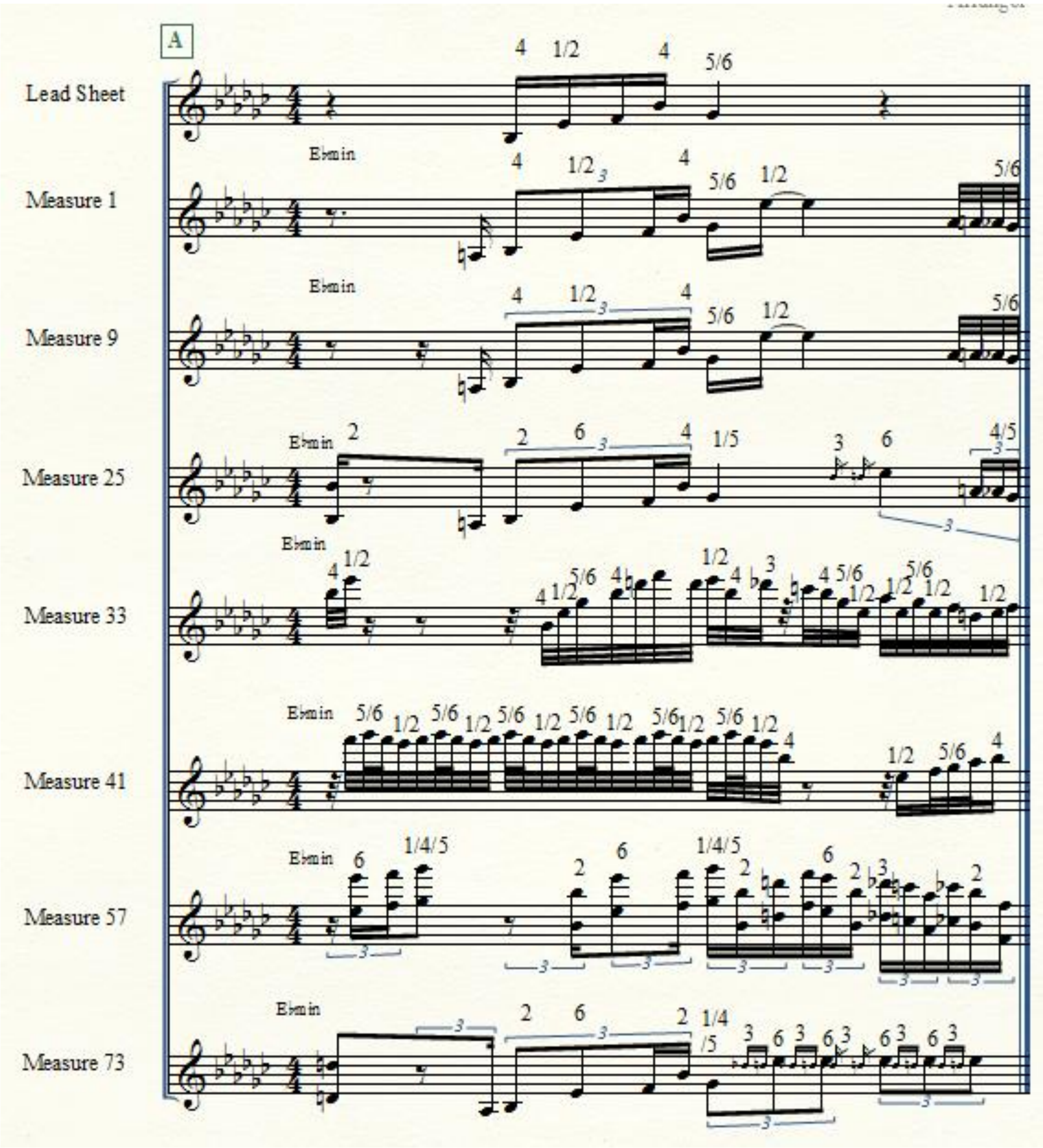
The analysis of Wes Montgomery's improvisation over the changes to "'Round Midnight" provides interesting conclusions through the Top Line theory. The first Particle in Montgomery's improvisation is found in the first measure of the A section over the tonic E-flat minor. Montgomery's Particle 1—beginning with the Top Line progression 4-1/2-4-5/6-1/2-5/6—clearly emulates the melody and mimics the Top Line progression of the lead sheet. However, Montgomery extends the progression of the lead sheet to incorporate two additional notes represented in Top Line Matrix, E-flat and G-flat or Top Lines 1/2-5/6, respectively. Montgomery repeats this Top Line progression at the beginning of every A section in the entire first chorus of his solo. Put differently, Montgomery maintains this Particle *verbatim* for all three iterations of the A section in the form for the first chorus.

The second chorus of Montgomery's solo falls within the murky territory of the Particle progression versus a Particle representing a departure note. In the first A section of the second chorus, indicated as m. 33 in Figure 5.1 below, Montgomery keeps close to the Particle established in the previous chorus at first, fragmenting the 4-1/2 connection that introduces Particle. However, Montgomery then starts to elaborate, expand, and depart from the Particle in the latter half of the measure. This single measure, then, would encompass *both* a fragmentation of the Particle from the previous chorus and a departure point. Furthermore, this measure acts as a pivot from one type of Particle to the other, since what follows can be better described as a departure point than a recurring pattern of Top Lines. Interestingly enough, Montgomery switches departure tones in the second chorus, but maintains Top Line 4 as a viable target tone. In measure 41 of Montgomery's improvisation there is a string of Top Lines 5/6-1/2 which is only interrupted for a leap down to Top Line 4, B-flat. Top Line 4's importance is then reinforced by an ascent at the end of the measure.

The leap to strengthen the importance of Top Line 4 is not only apparent in m. 41 but also appears in the next iteration of the A section in m. 57. In m. 57 there are several leaps which accent Top Line 4 from various chord tones. The first leap to Top Line 4 in this measure occurs after a brief period of rest, then leaps down to the B-flat from the previously played G-flat. Following this, Montgomery continues with an arpeggiation of the tonic chord. Worth noting here is how Montgomery uses Top Line 4 as a base for departure for this arpeggiation. Previously, we saw how Mulligan uses Top Lines as a point of departure but in a more linear fashion. Here, Montgomery utilizes the same concept but with a more arpeggiated approach.

Worth noting is the notion that Montgomery pivots from one type of Particle to another in different choruses. Montgomery maneuvers from Particles which depict patterns of Top Lines similar to Monk, to Particles as departure points and/or target points to give him more creative freedom in the second chorus. This demonstrates that an improvisor need not conform to one particular style of Particle but is free to experiment within them. Stylistically speaking, this is interesting since Mulligan encompasses stylistic features similar to both Monk and Mulligan.

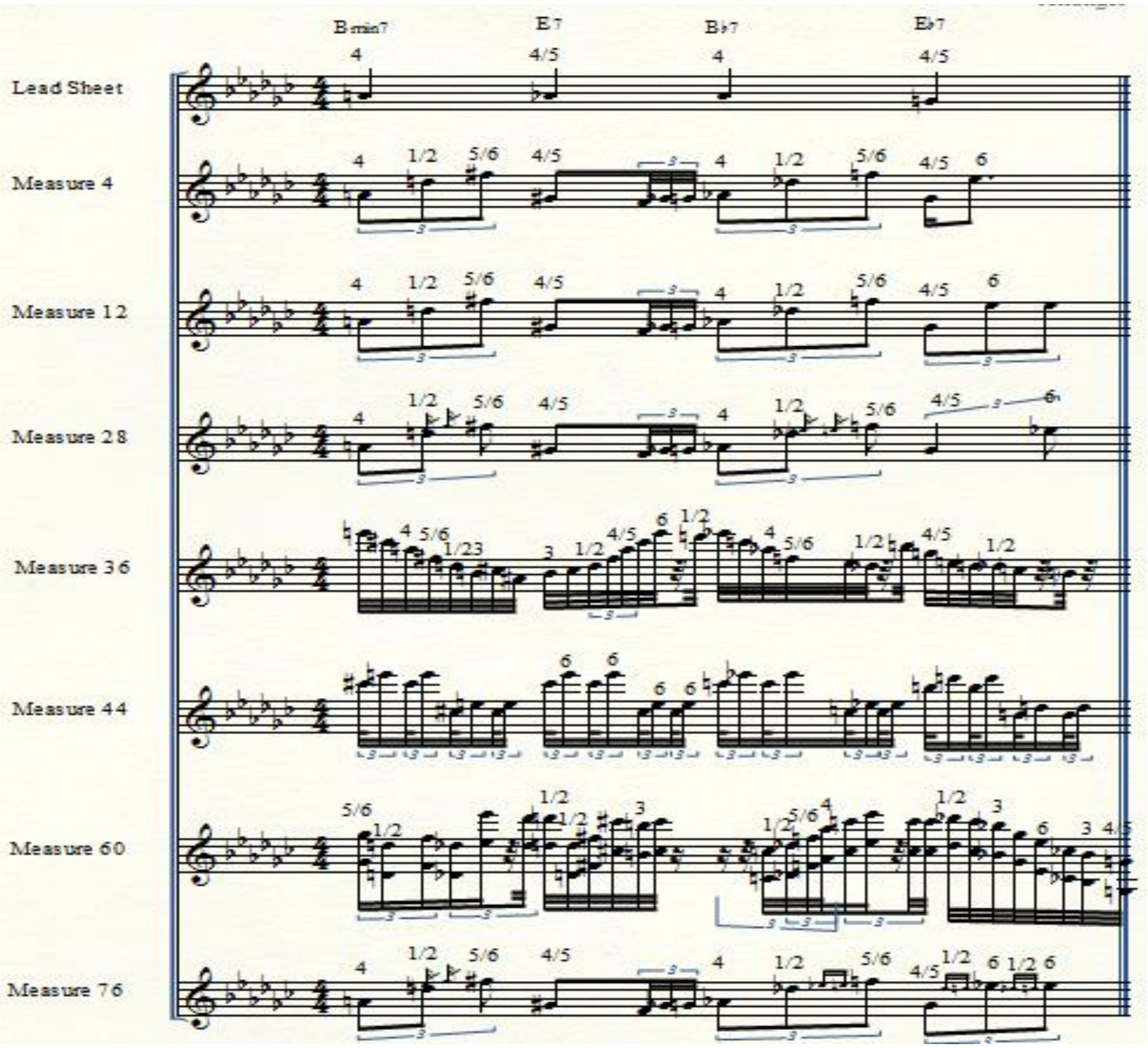
Figure 6.1: Particle 1 – Montgomery


A
Lead Sheet
4 1/2 4 5/6
Measure 1
E♭min
Measure 9
E♭min
Measure 25
E♭min
Measure 33
E♭min
Measure 41
E♭min
Measure 57
E♭min
Measure 73
E♭min

Particle 2 - Montgomery

Particle 2 (see Figure 6.2), similar to Particle 1, demonstrates that Montgomery shifts between the polar types of Particles presented here throughout his improvisation, transitioning between lick-based Particles to a point-of-departure Particles. In Particle 2, Montgomery plays the same line almost verbatim in the entire first chorus with a 4-1/2-5/6-4/5-4-1/2-5/6-4/5-6 Top Line Progression. This can be further parsed into two sub-progressions within each ii-V, containing almost identical Top Line progressions of 4-1/2-5/6-4/5, with only an additional Top Line being added at the end of the E-flat 7th.

Figure 6.2: Particle 2 - Montgomery


B-min7
E7
B♭7
E♭7
4
4/5
4
4/5
Lead Sheet
Measure 4
4 1/2 5/6 4/5 4 1/2 5/6 4/5 6
Measure 12
4 1/2 5/6 4/5 4 1/2 5/6 4/5 6
Measure 28
4 1/2 5/6 4/5 4 1/2 5/6 4/5 6
Measure 36
Measure 44
Measure 60
Measure 76
4 1/2 5/6 4/5 4 1/2 5/6 4/5 1/2 6 1/2 6

In both Particles, Montgomery returns to the pattern for the last iteration of the A section. Furthermore, in the three A sections previous, Montgomery abandons his sense of coherence with the Particles to play more “out.” This can also be deduced by a lack of Top Lines present in m. 44, indicating that he is not targeting chord tones specifically but almost *avoiding* them.

At this point, it is worth mentioning that solos will not always conform to the Particle model proposed, as is the case with Montgomery’s last chorus depicted in Particle 2. In particular, a soloist might move from a linear texture to an arpeggiated texture, as is the case in many solos by the saxophonist John Coltrane, from his so-called “sheets of sound” period. Montgomery uses Particles as a base which he can adapt, evolve, and manipulate throughout his improvisation, but need not rely upon for his improvisation. It serves as a template, not a motive that needs to be played verbatim in each iteration.

Conclusion

Wes Montgomery demonstrates that improvisors need not conform to any type of Particle strictly but may navigate between them. Montgomery, who begins strictly with lick-type Particles expands and explores a more linear point-of-departure Particle, uses both types of stylistic playing addressed so far and can draw upon either style at any given time. This demonstrates that certain artists may fall within the grey area of the stylistic depicts proposed here. Put differently, if Monk’s lick-type Particle demonstrate one end of the Particle theory and its own type of stylistic playing and Mulligan’s departure-point Particle demonstrates another and the other end of the Particle theory, Montgomery’s playing sits somewhere in between them, incorporating both at any given moment or varying throughout each chorus.

Chapter 7: Conclusions

Applications

The proposed Top Line model illuminates a number of features from the artist and improvisation being analyzed. One of the main results in a Top Line analysis is the illumination of style. The Particles found in an artist's improvisation shows how an artist may approach improvising over the changes. Two central styles to improvisation have been discussed in the earlier chapters through Particles: the "lick" Particle and the "departure point" Particle.

Thelonious Monk's style consists of reiterated patterns which he uses at similar moments in the form or "licks." Gerry Mulligan, conversely, does not desire so much a "lick" but rather accents one certain tone, either as a departure point or a destination. Wes Montgomery merges the two into a "hybrid" style which uses both "licks" and departure points or target tones throughout numerous choruses of improvisation. Thus, the Top Line model can be used as a determinant of style.

One explanation for the contrasting styles of these artists can be equated to their differing instruments. Although this model does not prove this, the results can elude to the fact that musicians approach improvisation differently depending on their instrument.

We have concentrated on showing how our Top Line theory can be used to analyze jazz improvisation. However, this theory is not limited to analytical purposes but also holds possibilities for performance and composition studies as well. In what follows, other applications of the Top Line theory are discussed and other potential pedagogical uses, whether it be performance or analysis-based, are addressed.

The first application to warrant discussion is how this theory can be used and developed to become a pedagogical tool to teach basic improvisation. To begin, the beginning improvisor would create the Top Line Matrix. Following that, they would develop a set pattern or “lick,” in essence a Particle that the beginning improvisor would play over certain chords or a succession of chords, or Particles.

Once a compilation of Particles is achieved and can be performed, the beginning improvisor can then branch away from the set Particles and explore the individualities of each Top Line. The beginning improvisor can utilize each Top Line as an underlying structure upon which they can embellish and develop. The initial objective would be to target the same Top Line between adjacent measures, creating distant connections between adjacent measures. Regardless of the notes played in each measure, the connection will most likely remain evident and frame a basic coherence within one’s improvisation.

The next step would then be to combine Top Lines. This step becomes increasingly convoluted and difficult but warrants some attention nonetheless. Although the number of combinations when combining Top Lines is astronomical, focusing on a few (perhaps two or three) specific Top Lines and alternating between them would give the beginning improvisor a great deal more variety for their improvised lines. The important thing to focus on with the step would be coherence. Keeping a consistent alternation would provide logic and coherence but may muddle the connection of each measure that the previous step set out to accomplish.

With these steps in mind, if one were to use this theory as a foundation for improvising they should begin with Monk’s style of playing with very clear Particles and work their way towards Mulligan’s style of playing, where the connection becomes more convoluted. This is not to say that Monk is by any means a lesser improvisor, but that the coherence of his improvisation is much more tangible for those not yet experienced in jazz improvisation. Ultimately, one wishes to be able to achieve both styles of playing and integrate both in their improvisation *ad lib.*

Another pedagogical use for this model is the explanation, demonstration, and creation of compound melodies. By demonstrating multiple Top Lines working in conjunction, the result becomes a compound melody. The Top Lines would provide a solid foundation for the student to grasp onto while beginning to explore compound melody compositions until they choose to deviate and branch off each Top Line. Focusing on two separate Top Lines, a student may alternate between them in a musical manner to create a melody consisting of two separate lines simultaneously, or a compound melody. The student may also delve into increasingly complicated compound melodies which utilize more than two Top Lines if they so choose.

Restrictions

However useful the model presented in this thesis may be for pedagogical purposes, it is not without weaknesses and restrictions. The first restriction is the lack of all chord tones represented within the Top Line Matrix. This makes the analysis flawed and unable to address any motives or patterns that are not represented by a Top Line. Another drawback of the proposed model is the conscious effort required by the analyst to create the Top Lines, which inevitably favour certain tones chosen by the analyst. This often results in a bias being present in the analysis based on the analyst. For our present study, the bias was to favour guide tones over chord tones which may be less frequently targeted by a jazz improvisor.

Another restriction of this model is the absence of chordal extensions expressed in the Top Line Matrix. Chordal extensions past the seventh have become a common feature in jazz harmony and to completely neglect them in an analytical model would be to undermine the complexities of jazz harmony. Perhaps, should this model be explored further, one can create a Matrix to include extensions past the seventh and eliminate this restriction, however a model such as that extends well beyond the scope of this project.

The final restriction to be discussed before the concluding remarks is the nature of the Law of the Shortest Way. Voice-leading practice tends to constantly descend, creating a complex interwoven Matrix of Top Lines the cross paths and explore each other's territories. While this is illuminating to see the nature of voice leading, it is also problematic when trying to address consistency. As we have seen, as the form progresses the same note becomes represented by separate Top Lines or becomes represented by two different Top Lines. A strong example of this would appear in the B Section of the "'Round Midnight" Top Line Matrix. The B Section of the Matrix, due to the descending nature of voice leading of guide tone progressions, has only two notes represented in each chord. Furthermore, since the harmony in the B Section is mostly chromatic the Top Lines all follow the same path through the Law of the Shortest Way. The result is a lack of chord tones and possible Particles within the B Sections of the artists' improvisations. This also affects the final A section of each chorus. Since the B Section harmony so drastically changed the course of each Top Line, the result is the final A section not having the same Top Lines represent the same notes, which explains why the third iteration of each Particle was often the deviant from the rest of the Particle's respective parts. This muddles the coherence and consistency this model sets out to reveal. One possible solution to this would be to repeat the A section of the Matrix verbatim and not have the Top Lines progress throughout the whole form. This would also be a viable solution for the B Section. Put differently, it would add strength to the model if each section of the form was its own entity with its own Matrix. All A sections follow the same 8-measure Matrix, and the B Section would have a separate 8-measure Matrix. For the sake of consistency, the Top Lines can be connected through the Law of the Shortest Way for each *initial* note. This would create a distant yet more cohesive connection between each section of the form but may distort any distant connections the improvisor may utilize.

Final Thoughts

Although the Top Line theory needs modifications and is by no means without faults, it does provide valuable insights on several topics. This model provides a means of viewing voice leading not as motion from one chord tone to another, but as motion from one Top Line to another. This then raises the notion of voice leading taking place *within* each chord and not merely between chords.

This model can then be further extended to illustrate stylistic features of each artist. As we have seen, Monk prefers a Particle-driven style of improvising which utilizes patterns or consistencies at certain moments in the form. Mulligan, however, prefers to use a single note as a point of departure from which he can develop his solo rather than reiterate the same motive. While both hold merit, the analyses speak to the individual's stylistic features and methods of improvisation.

This model may also hold some worth in the jazz pedagogy world, providing useful insights for how to add coherence to one's solo, how to develop these applications, and how to compose compound melodies. Whatever the case may be, the Top Line theory, if anything, provides a fresh outlook on voice leading within each individual chord which may often be overlooked.

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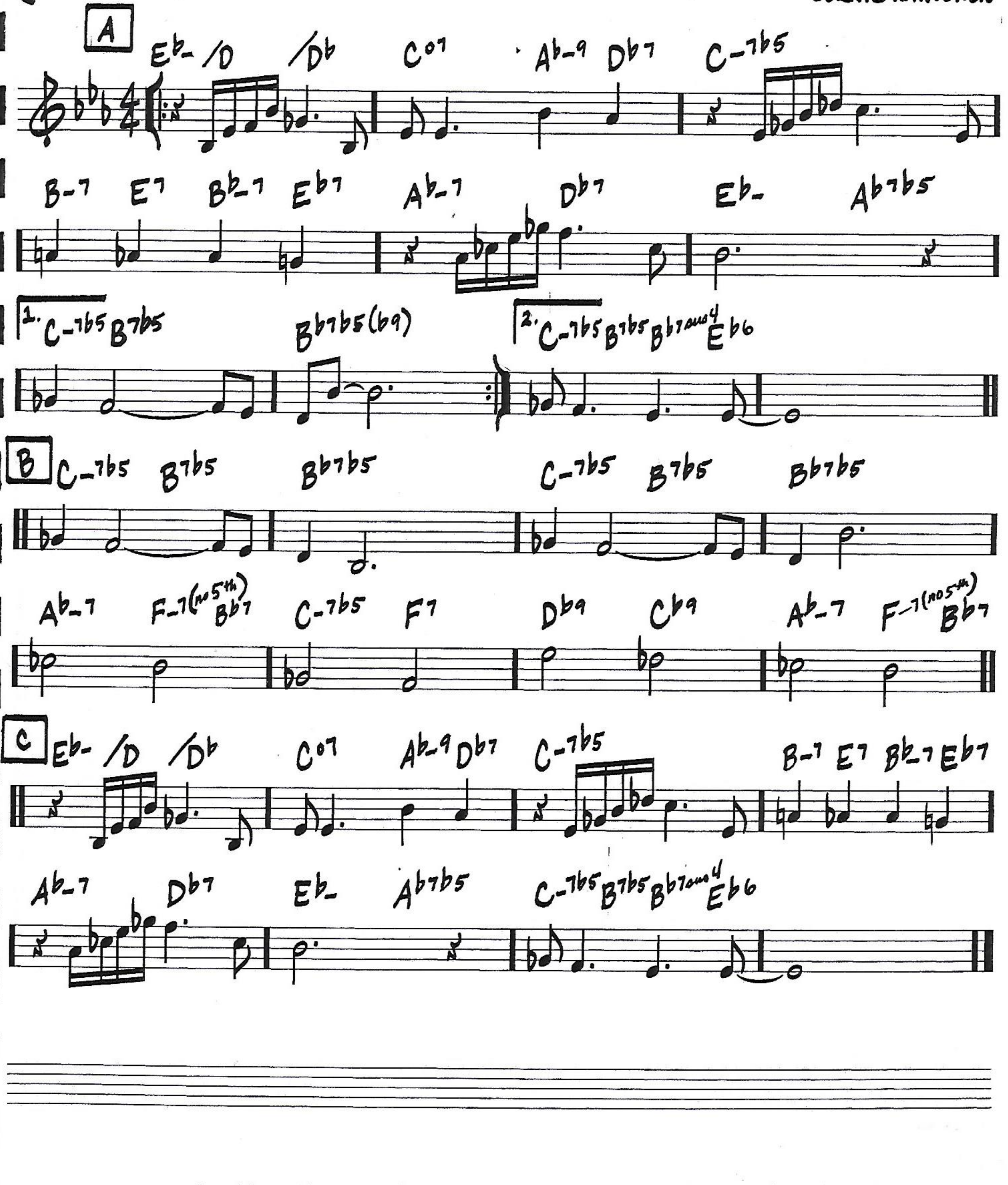
Appendices

Pages in the Appendix are numbered separately from the thesis text for ease of reference.

'ROUND MIDNIGHT

(BALLAD)

-THELONIOUS MONK/
COOTIE WILLIAMS/
BERNIE HANIGHEN


A
Eb- /D /Db
C°7
Ab-9 Db7
C-7b5
B-7 E7 Bb-7 Eb7
Ab-7
Db7
Eb-
Ab7b5
1. C-7b5 B7b5
Bb7b5(b9)
2. C-7b5 B7b5 Bb7sus4 Eb6
B
C-7b5 B7b5
Bb7b5
C-7b5 B7b5
Bb7b5
Ab-7
F-7(no 5th) Bb7
C-7b5
F7
Db9
Cb9
Ab-7
F-7(no 5th) Bb7
C
Eb- /D /Db
C°7
Ab-9 Db7
C-7b5
B-7 E7 Bb-7 Eb7
Ab-7
Db7
Eb-
Ab7b5
C-7b5 B7b5 Bb7sus4 Eb6

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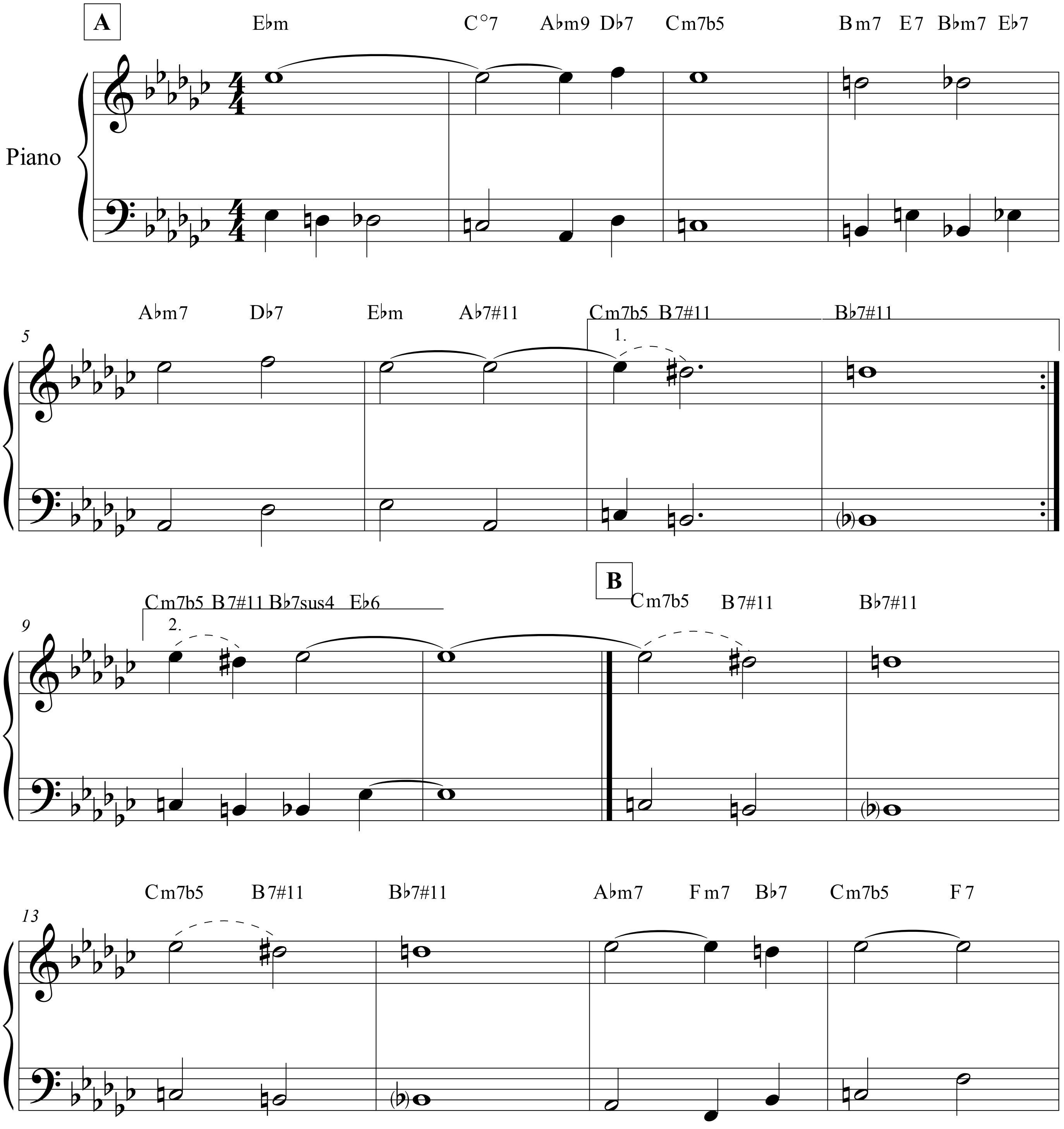
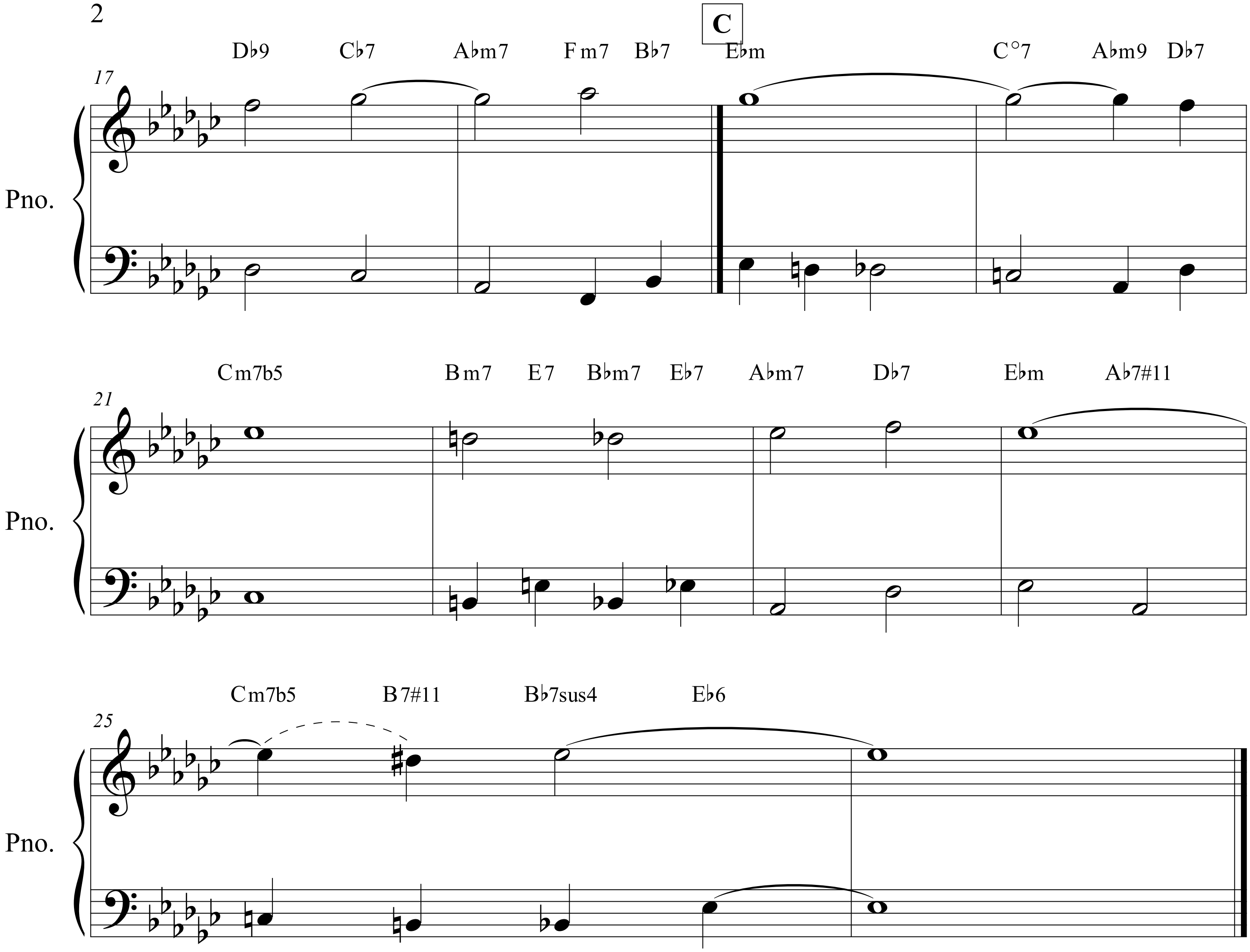
Score

'Round Midnight

Top Line 1


A
E♭m
C°7
A♭m9
D♭7
Cm7b5
B m7
E 7
B♭m7
E♭7
Piano
5
A♭m7
D♭7
E♭m
A♭7#11
Cm7b5
B 7#11
B♭7#11
1.
Pno.
9
Cm7b5
B 7#11
B♭7sus4
E♭6
2.
B
Cm7b5
B 7#11
B♭7#11
13
Cm7b5
B 7#11
B♭7#11
A♭m7
F m7
B♭7
Cm7b5
F 7

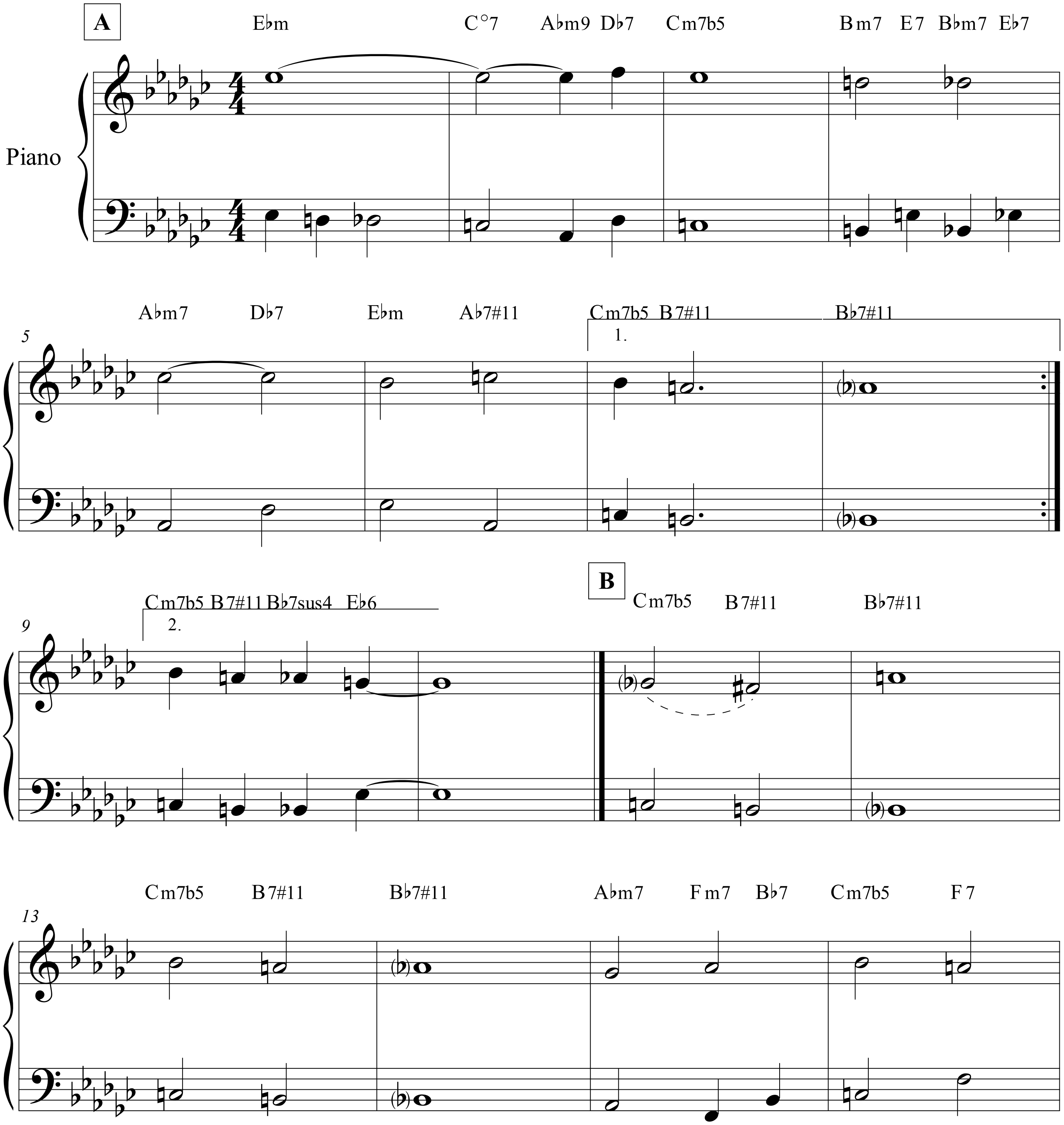
©


C
17
Db9
Cb7
Abm7
F m7
Bb7
Ebm
C°7
Abm9
Db7
Pno.
21
Cm7b5
B m7
E 7
Bbm7
Eb7
Abm7
Db7
Ebm
Ab7#11
Pno.
25
Cm7b5
B 7#11
Bb7sus4
Eb6
Pno.

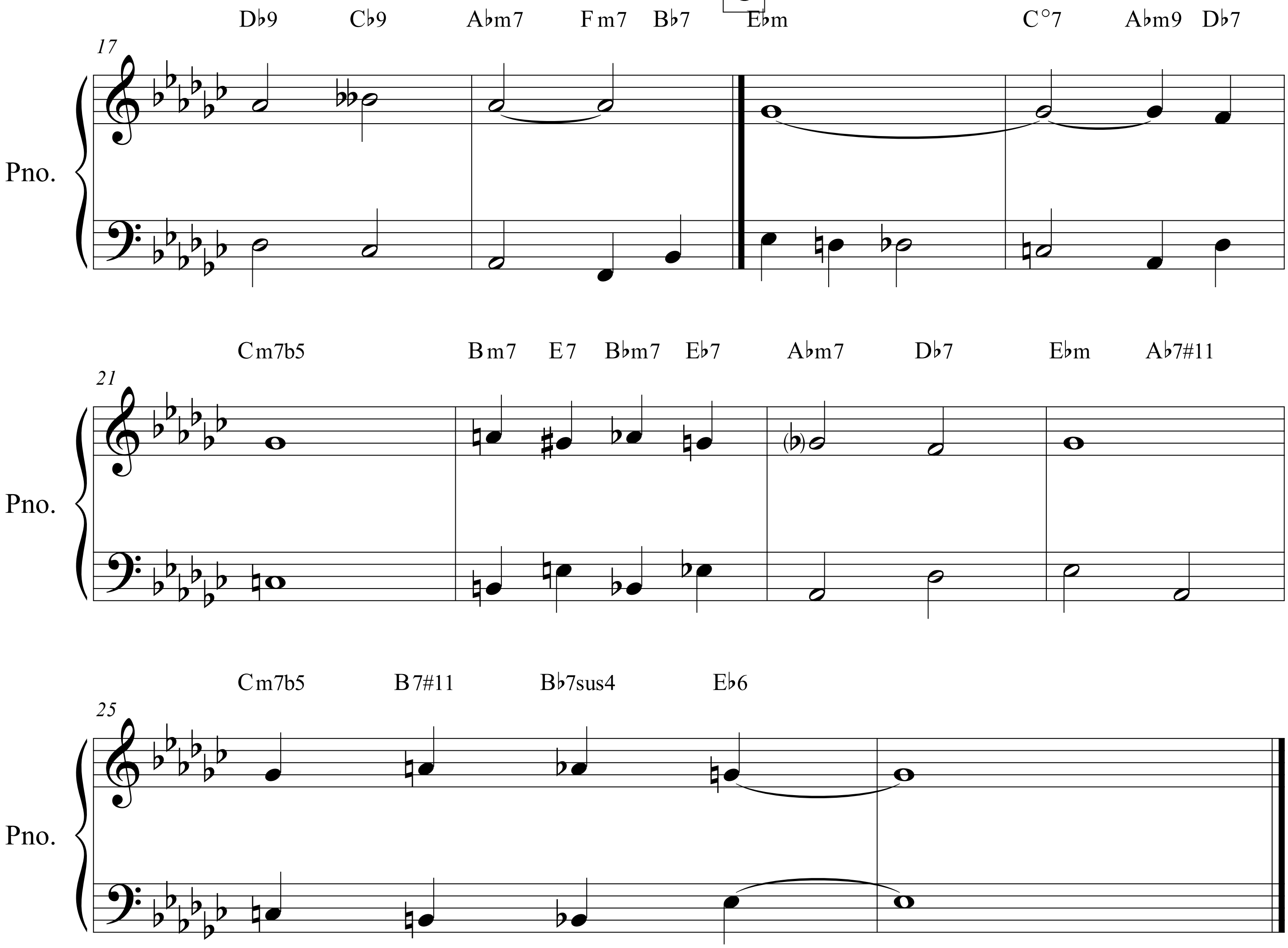
Score

'Round Midnight

Top Line 2

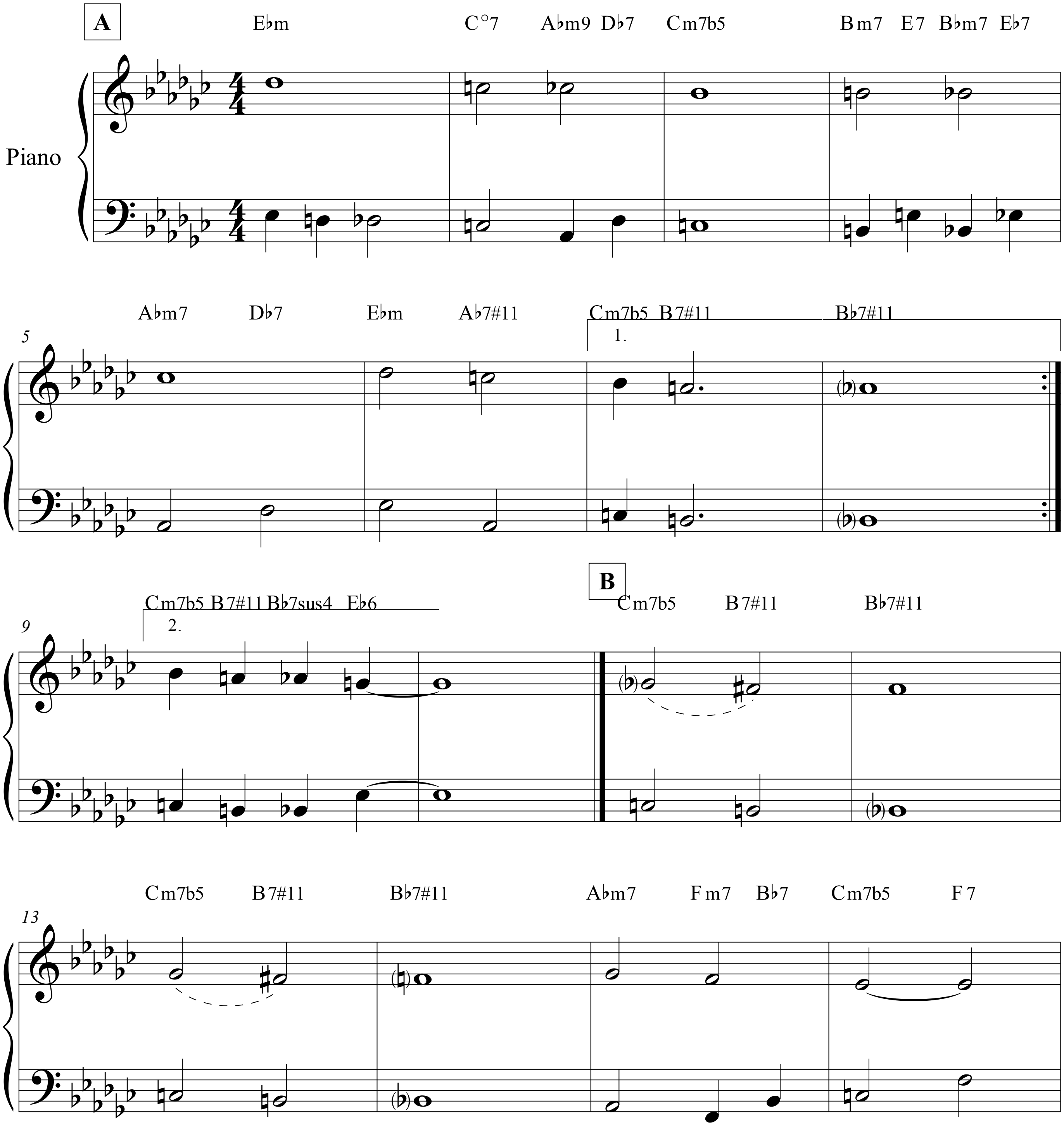

A
E♭m
C°7
A♭m9
D♭7
Cm7b5
B m7
E7
B♭m7
E♭7
Piano
5
A♭m7
D♭7
E♭m
A♭7#11
Cm7b5
B7#11
B♭7#11
1.
Pno.
9
Cm7b5
B7#11
B♭7sus4
E♭6
2.
B
Cm7b5
B7#11
B♭7#11
Pno.
13
Cm7b5
B7#11
B♭7#11
A♭m7
F m7
B♭7
Cm7b5
F7
Pno.

©

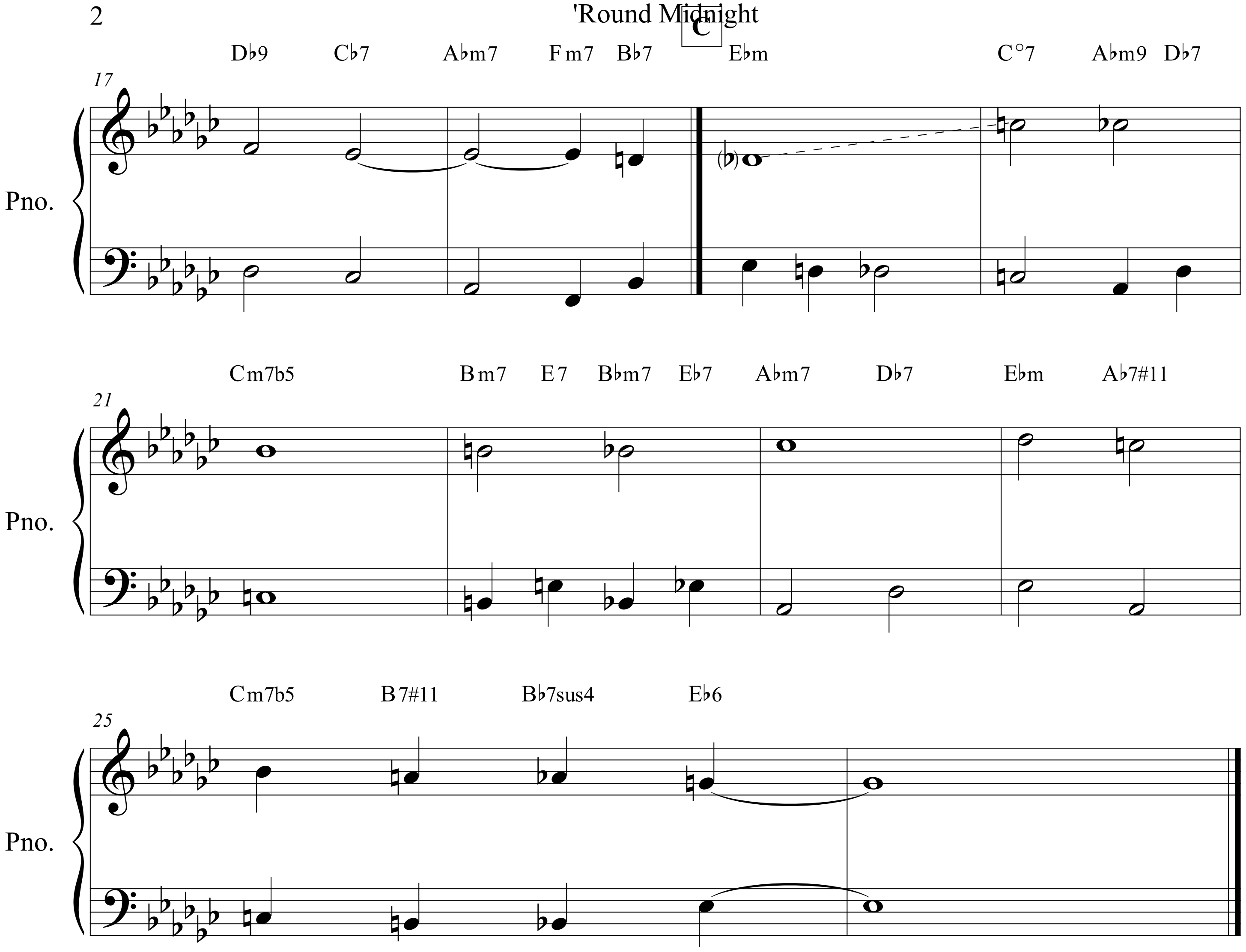

C
17
Db9
Cb9
Abm7
Fm7
Bb7
Ebm
C°7
Abm9
Db7
Pno.
21
Cm7b5
Bm7
E7
Bbm7
Eb7
Abm7
Db7
Ebm
Ab7#11
Pno.
25
Cm7b5
B7#11
Bb7sus4
Eb6
Pno.

'Round Midnight

Top Line 3

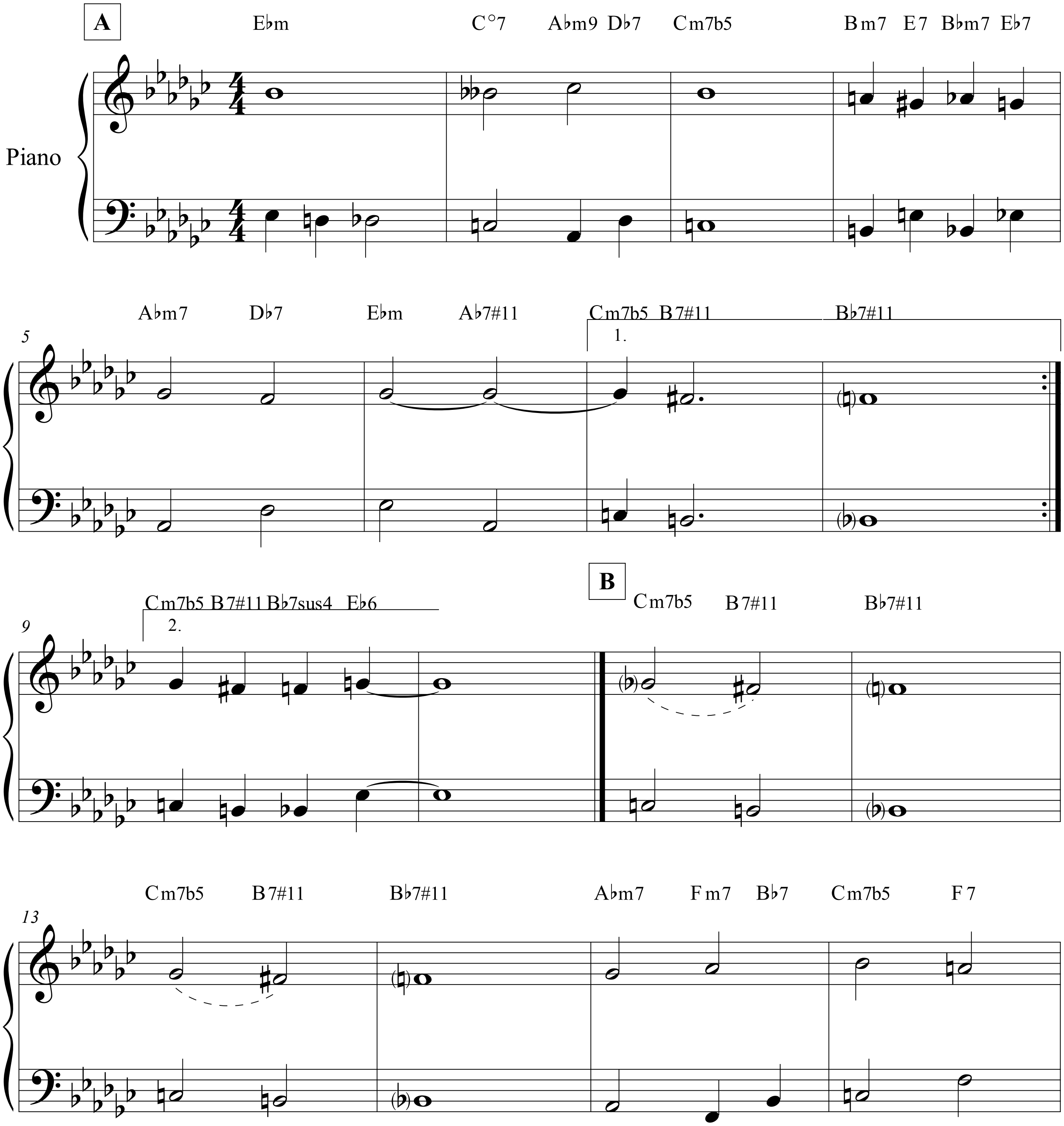

A
E♭m
C°7
A♭m9
D♭7
Cm7b5
B m7
E7
B♭m7
E♭7
Piano
5
A♭m7
D♭7
E♭m
A♭7#11
Cm7b5
B 7#11
1.
B♭7#11
Pno.
9
Cm7b5
B 7#11
B♭7sus4
E♭6
2.
B
Cm7b5
B 7#11
B♭7#11
Pno.
13
Cm7b5
B 7#11
B♭7#11
A♭m7
F m7
B♭7
Cm7b5
F 7
Pno.

©

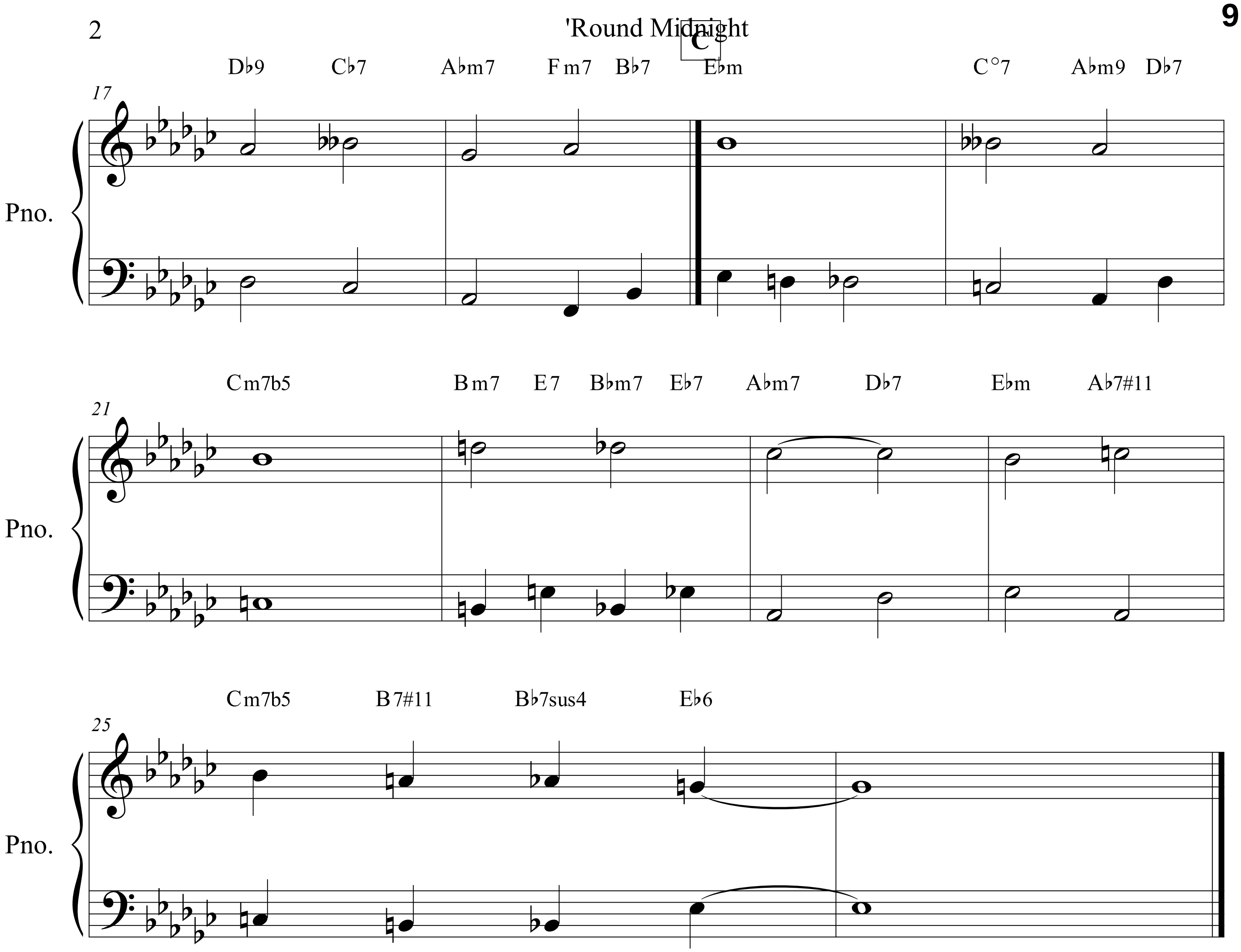

C
D♭9
C♭7
A♭m7
F m7
B♭7
E♭m
C°7
A♭m9
D♭7
17
(♭)
Pno.
C m7b5
B m7
E 7
B♭m7
E♭7
A♭m7
D♭7
E♭m
A♭7#11
21
Pno.
C m7b5
B 7#11
B♭7sus4
E♭6
25
Pno.

'Round Midnight

Top Line 4


A
E♭m
C°7
A♭m9
D♭7
Cm7b5
B m7
E 7
B♭m7
E♭7
Piano
5
A♭m7
D♭7
E♭m
A♭7#11
Cm7b5
B 7#11
1.
B♭7#11
Pno.
9
Cm7b5
B 7#11
B♭7sus4
E♭6
2.
B
Cm7b5
B 7#11
B♭7#11
Pno.
13
Cm7b5
B 7#11
B♭7#11
A♭m7
F m7
B♭7
Cm7b5
F 7
Pno.

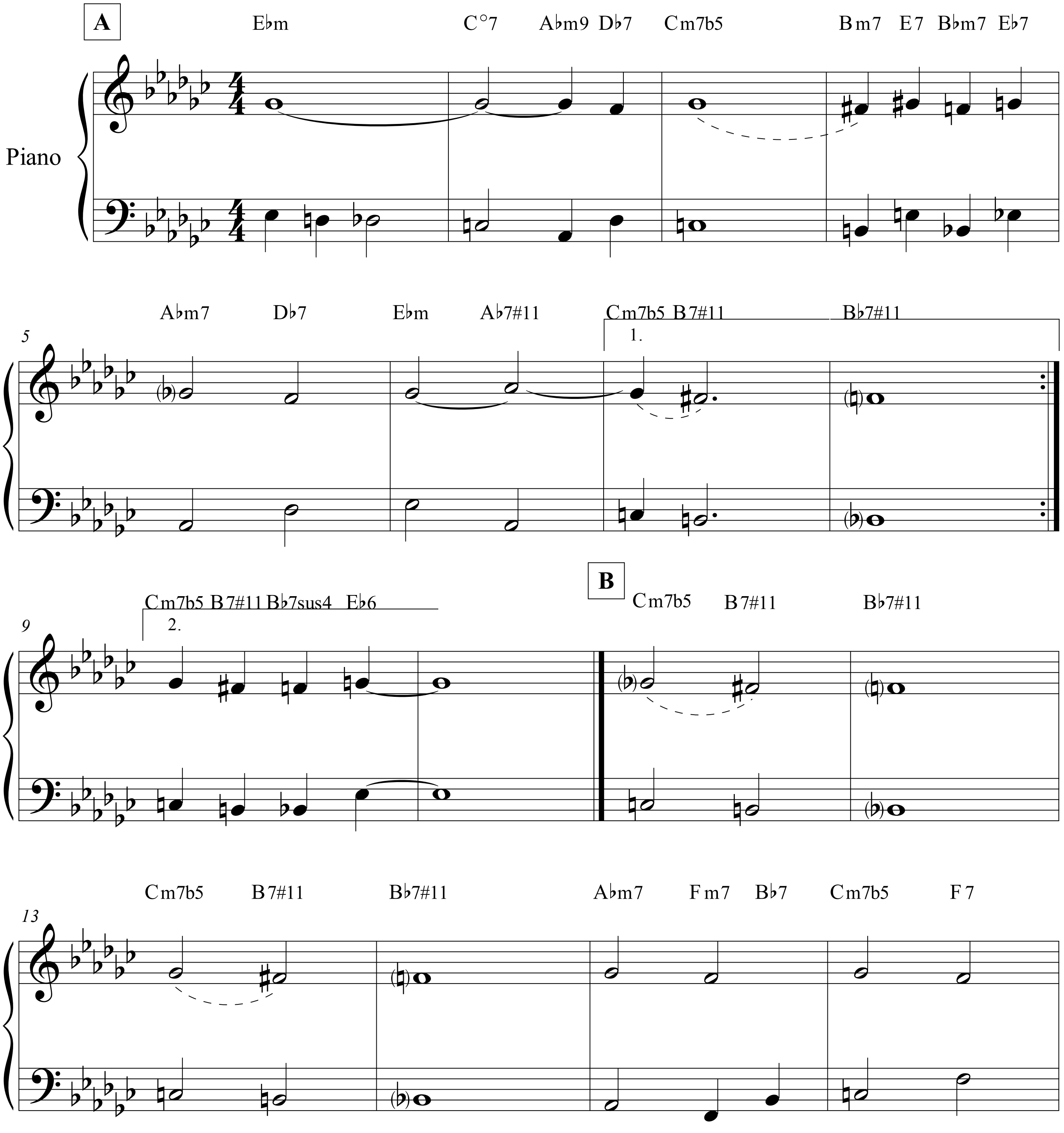
©


C
Pno.
17
D♭9
C♭7
A♭m7
F m7
B♭7
E♭m
C°7
A♭m9
D♭7
21
Cm7b5
B m7
E 7
B♭m7
E♭7
A♭m7
D♭7
E♭m
A♭7#11
25
Cm7b5
B 7#11
B♭7sus4
E♭6

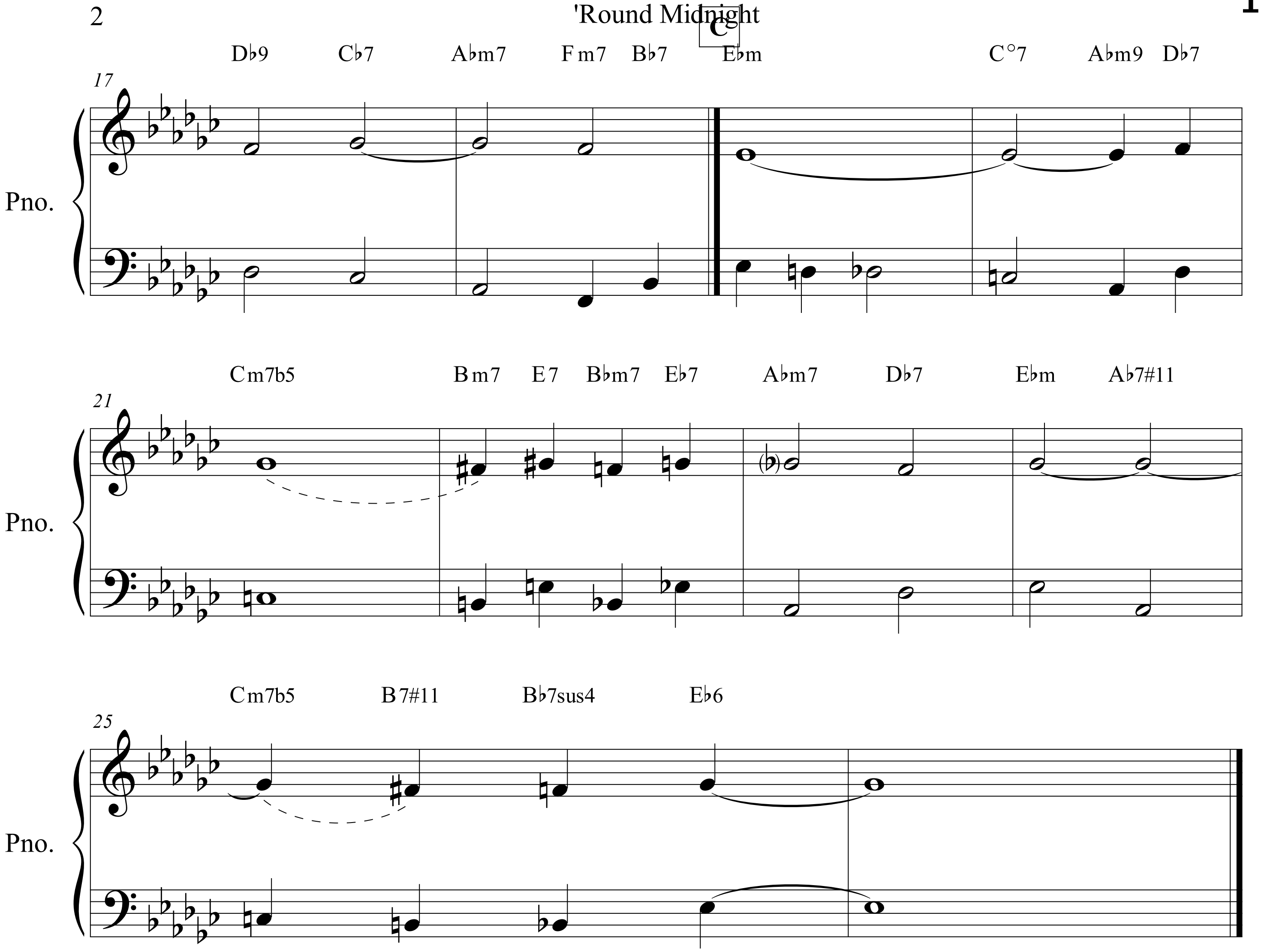
Score

'Round Midnight

Top Line 5


A
E♭m
C°7
A♭m9 D♭7
Cm7b5
B m7 E7 B♭m7 E♭7
Piano
5
A♭m7
D♭7
E♭m
A♭7#11
Cm7b5 B7#11
1.
B♭7#11
Pno.
9
Cm7b5 B7#11 B♭7sus4 E♭6
2.
B
Cm7b5
B7#11
B♭7#11
Pno.
13
Cm7b5
B7#11
B♭7#11
A♭m7
F m7
B♭7
Cm7b5
F 7
Pno.

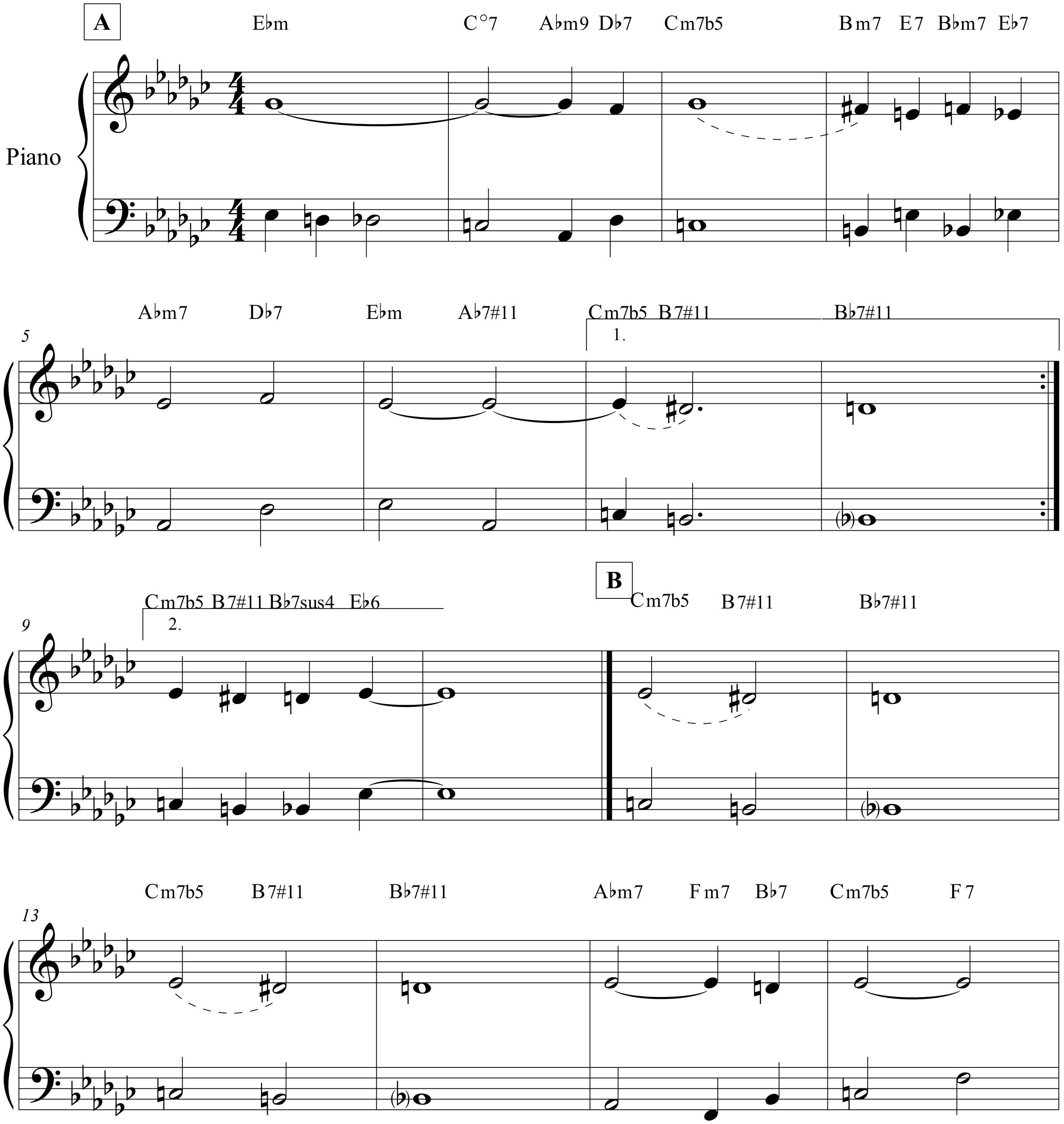
©


C
D♭9
C♭7
A♭m7
F m7
B♭7
E♭m
C°7
A♭m9
D♭7
17
Pno.
Cm7b5
B m7
E 7
B♭m7
E♭7
A♭m7
D♭7
E♭m
A♭7#11
21
Pno.
(♭)
Cm7b5
B 7#11
B♭7sus4
E♭6
25
Pno.

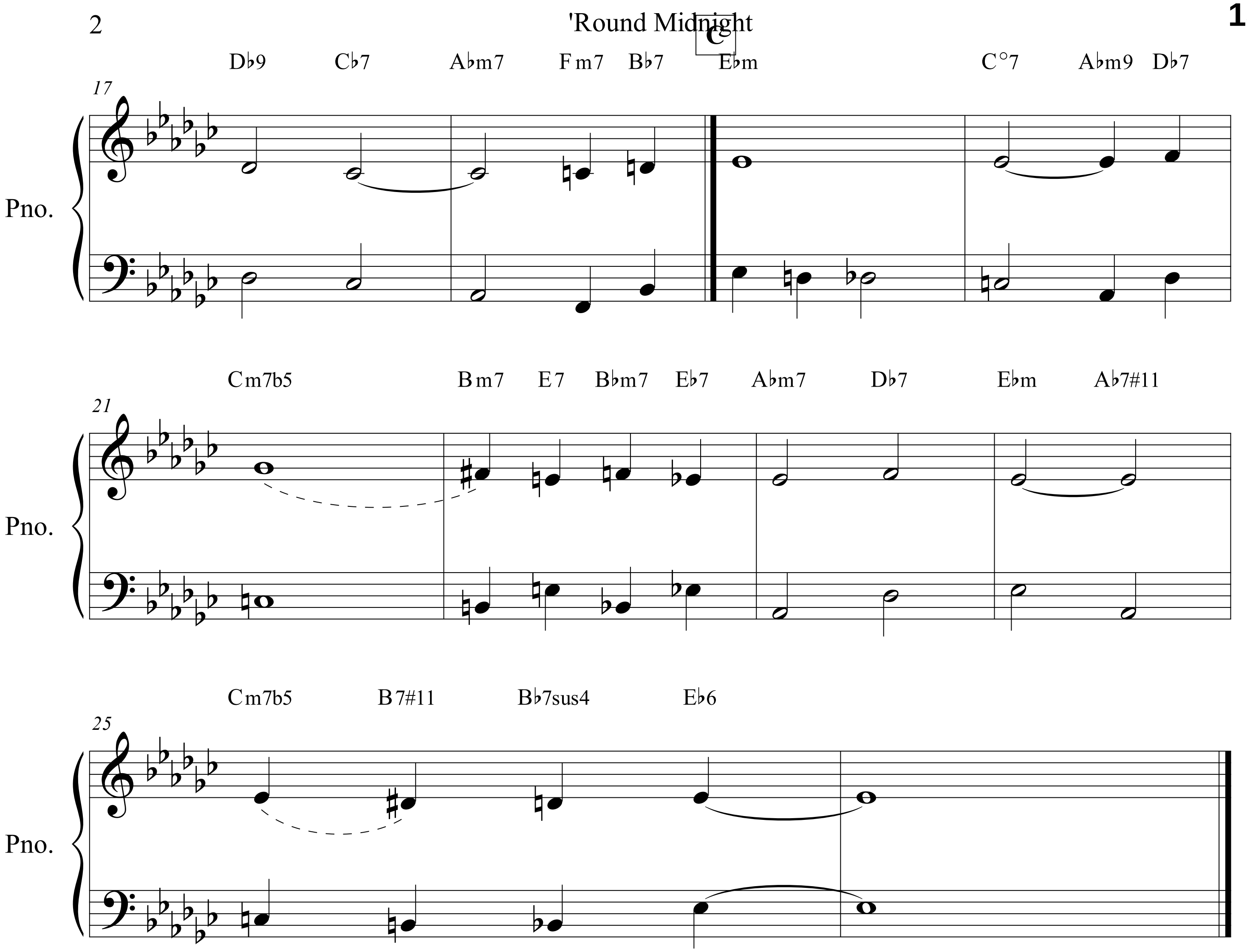
Score

'Round Midnight

Top Line 6

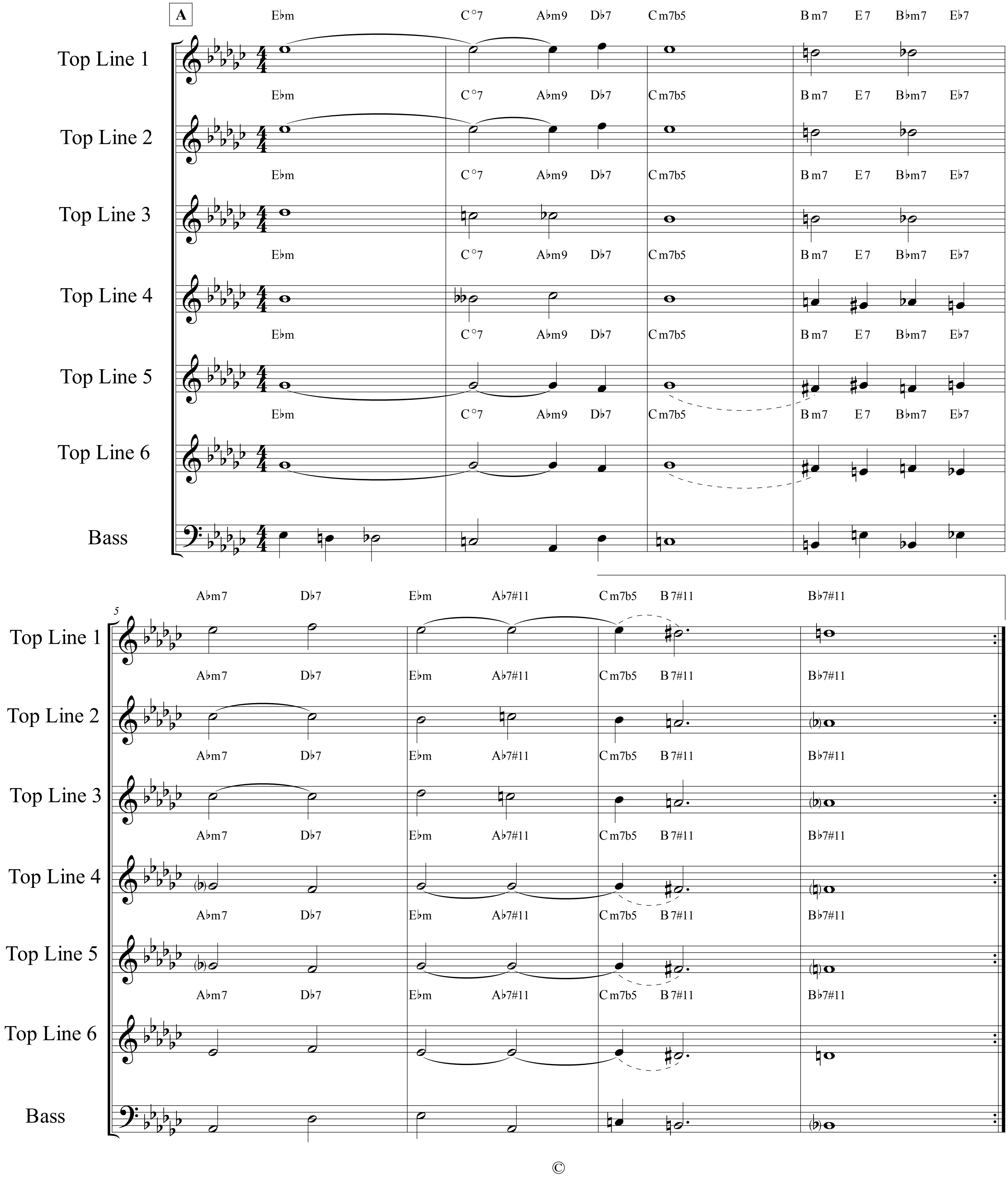

A
E♭m
C°7
A♭m9
D♭7
Cm7b5
B m7
E7
B♭m7
E♭7
Piano
5
A♭m7
D♭7
E♭m
A♭7#11
Cm7b5
B 7#11
1.
B♭7#11
Pno.
9
Cm7b5
B 7#11
B♭7sus4
E♭6
2.
B
Cm7b5
B 7#11
B♭7#11
Pno.
13
Cm7b5
B 7#11
B♭7#11
A♭m7
F m7
B♭7
Cm7b5
F 7
Pno.

©

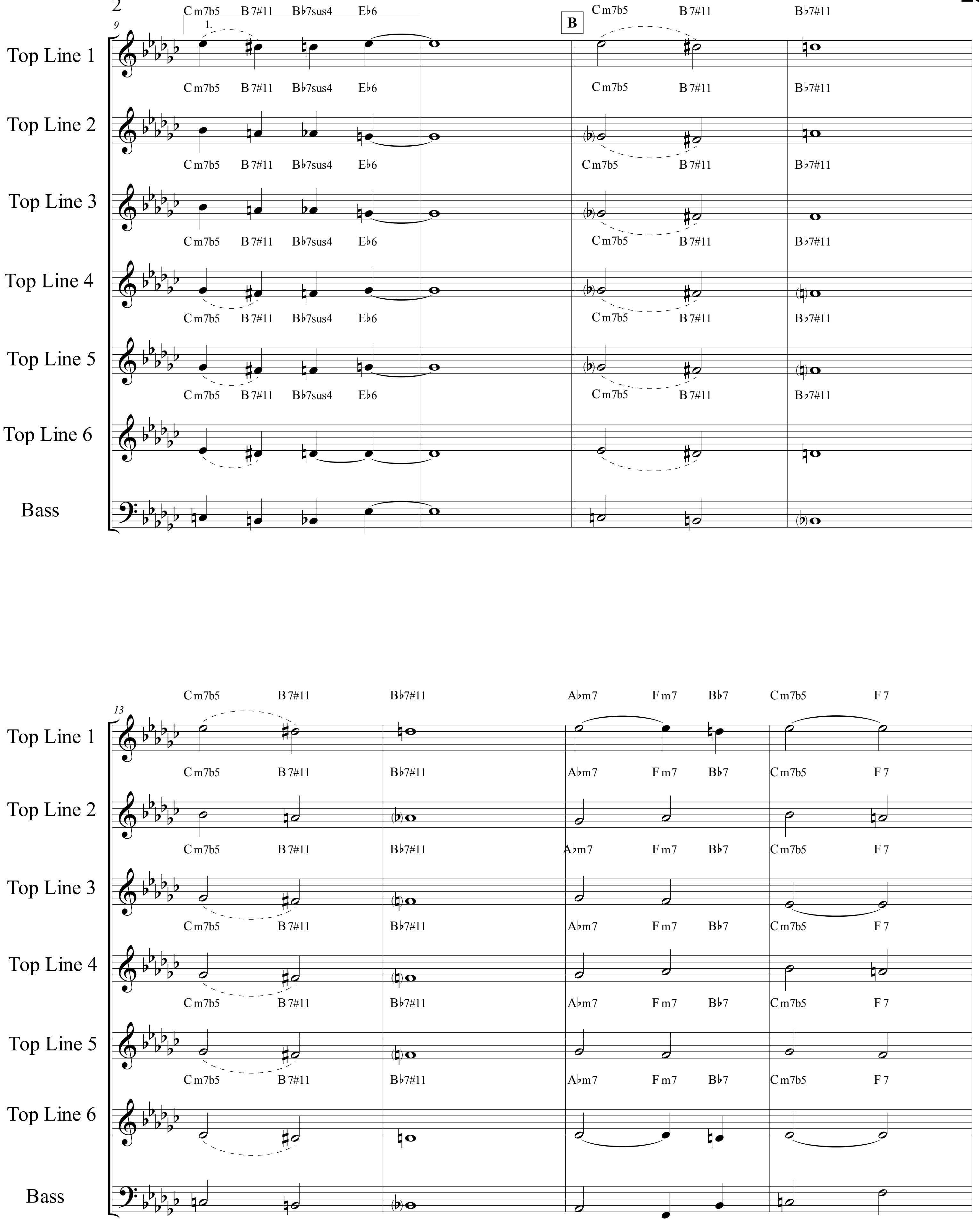

C
D♭9
C♭7
A♭m7
F m7
B♭7
E♭m
C°7
A♭m9
D♭7
17
Pno.
Cm7b5
B m7
E 7
B♭m7
E♭7
A♭m7
D♭7
E♭m
A♭7#11
21
Pno.
Cm7b5
B 7#11
B♭7sus4
E♭6
25
Pno.

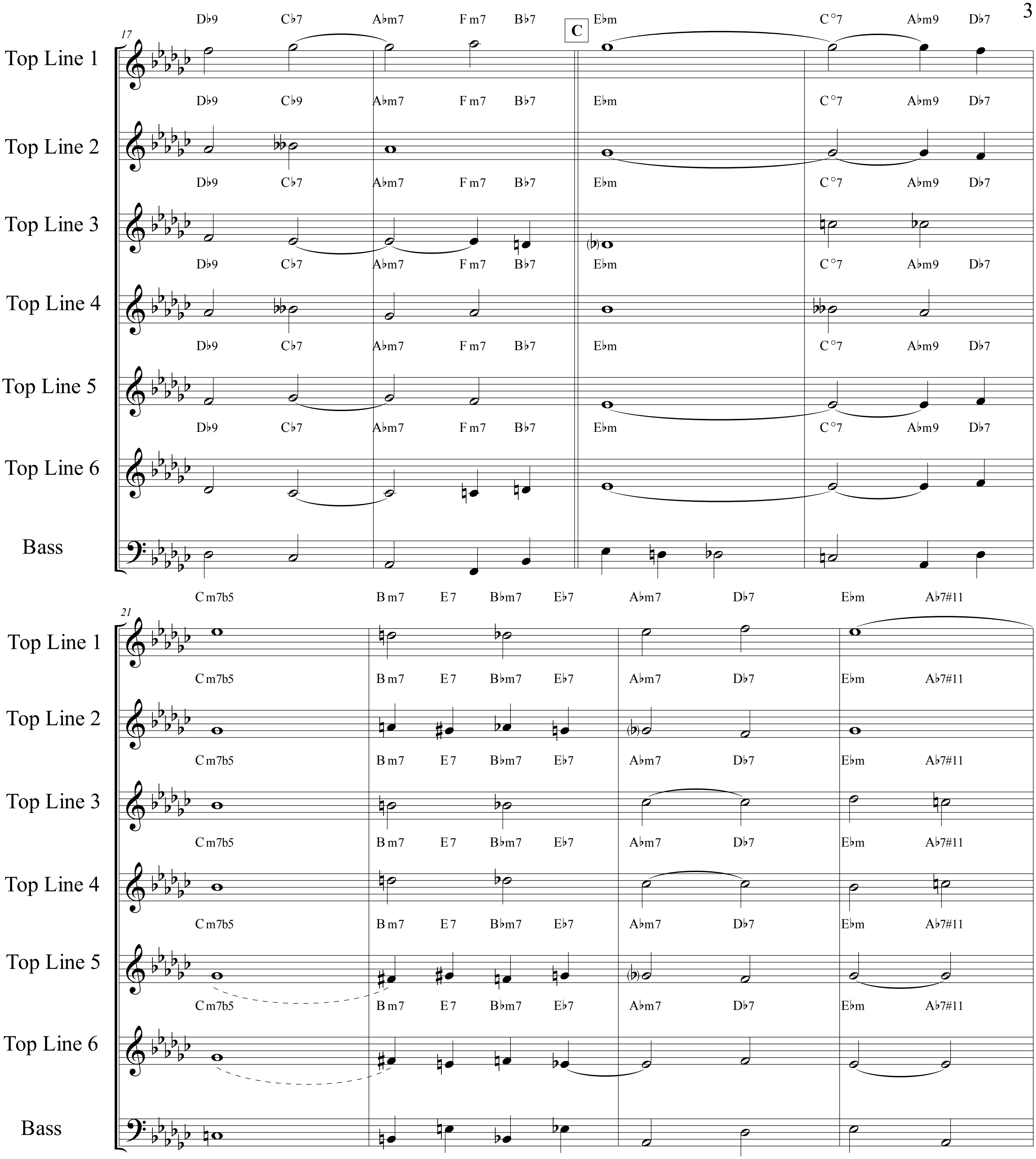
Score

Top Line Matrix

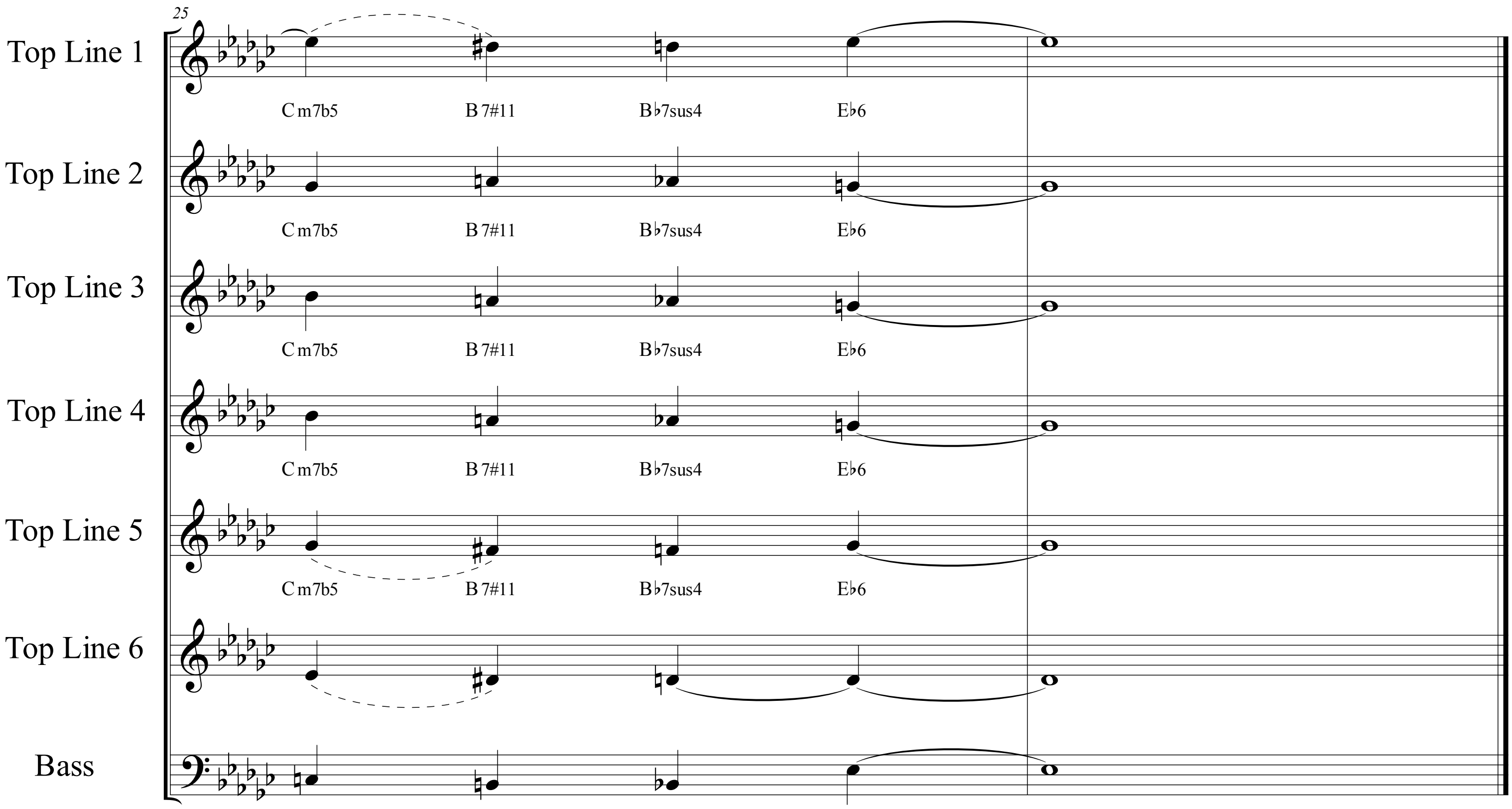

A
Top Line 1
Top Line 2
Top Line 3
Top Line 4
Top Line 5
Top Line 6
Bass
E♭m
C°7
A♭m9
D♭7
Cm7b5
Bm7
E7
B♭m7
E♭7
5
A♭m7
D♭7
E♭m
A♭7#11
Cm7b5
B7#11
B♭7#11

©


9
1.
B
Top Line 1
Top Line 2
Top Line 3
Top Line 4
Top Line 5
Top Line 6
Bass
C m7b5
B 7#11
B♭7sus4
E♭6
C m7b5
B 7#11
B♭7#11
13
C m7b5
B 7#11
B♭7#11
A♭m7
F m7
B♭7
C m7b5
F 7


17
C
Top Line 1
Top Line 2
Top Line 3
Top Line 4
Top Line 5
Top Line 6
Bass
D♭9 C♭7 A♭m7 F m7 B♭7 E♭m C°7 A♭m9 D♭7
D♭9 C♭9 A♭m7 F m7 B♭7 E♭m C°7 A♭m9 D♭7
21
C m7b5 B m7 E 7 B♭m7 E♭7 A♭m7 D♭7 E♭m A♭7#11

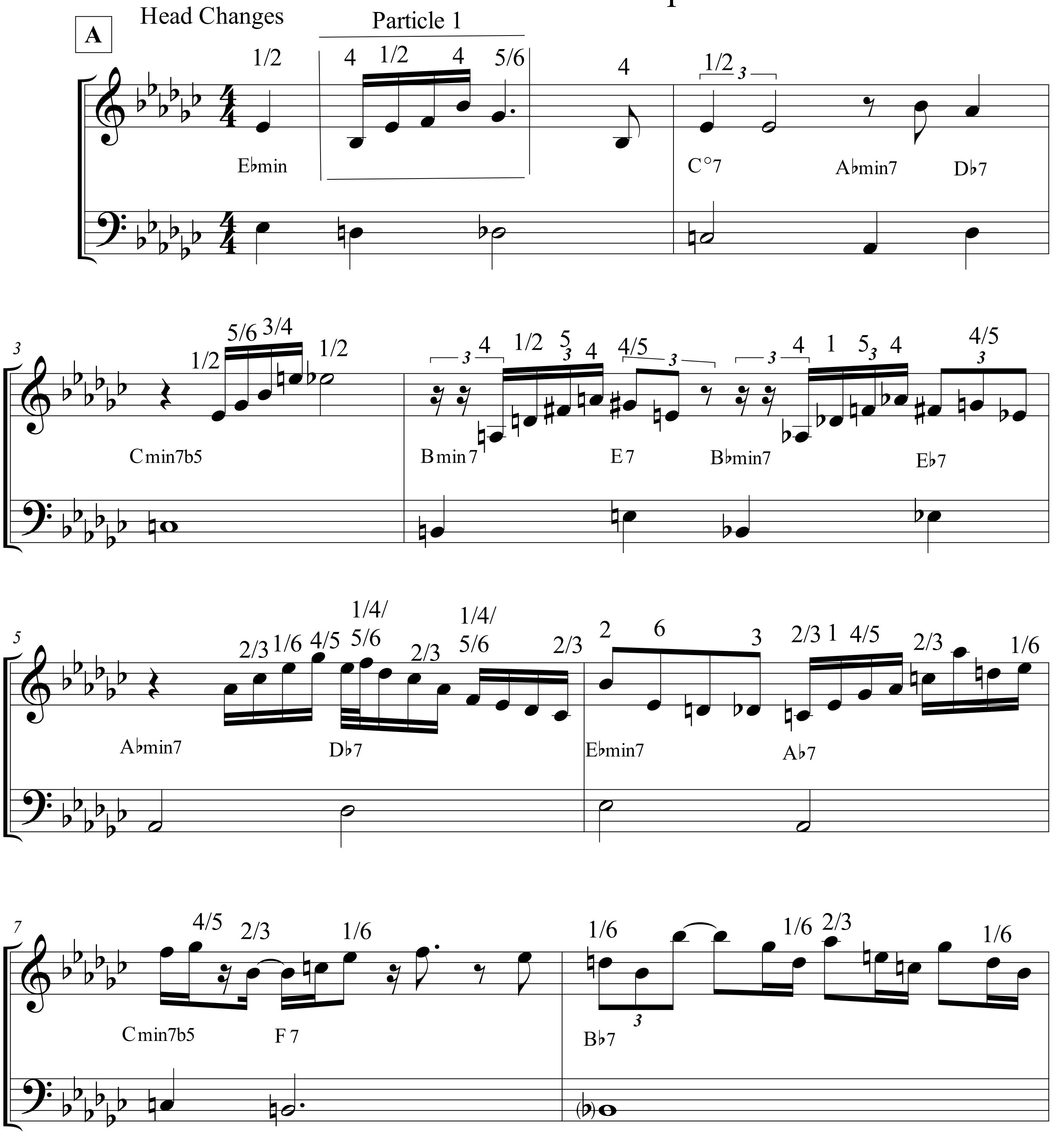
4


25
Top Line 1
Top Line 2
Top Line 3
Top Line 4
Top Line 5
Top Line 6
Bass
C m7b5
B 7#11
B♭7sus4
E♭6

Score

'Round Midnight

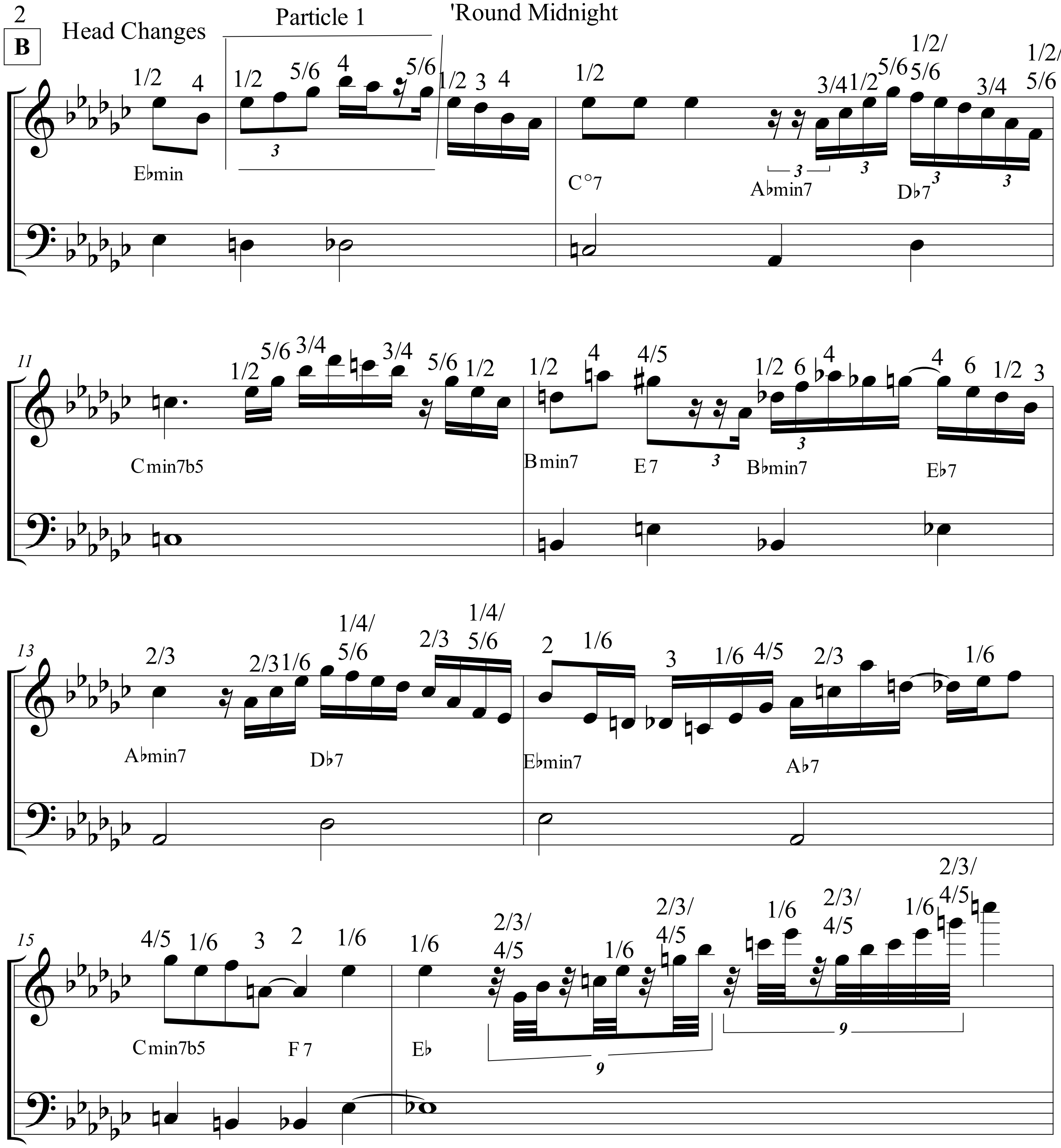
Thelonius Monk Solo Top Line


A
Head Changes
Particle 1
1/2
4 1/2 4 5/6
4
1/2
E♭min
C°7
A♭min7
D♭7
3
1/2 5/6 3/4 1/2
4 1/2 5 4 4/5
4 1 5 4 4/5
Cmin7b5
Bmin7
E7
B♭min7
E♭7
5
2/3 1/6 4/5 1/4/ 5/6 2/3 1/4/ 5/6 2/3
2 6 3 2/3 1 4/5 2/3 1/6
A♭min7
D♭7
E♭min7
A♭7
7
4/5 2/3 1/6
1/6 1/6 2/3 1/6
Cmin7b5
F7
B♭7
(♭)

©

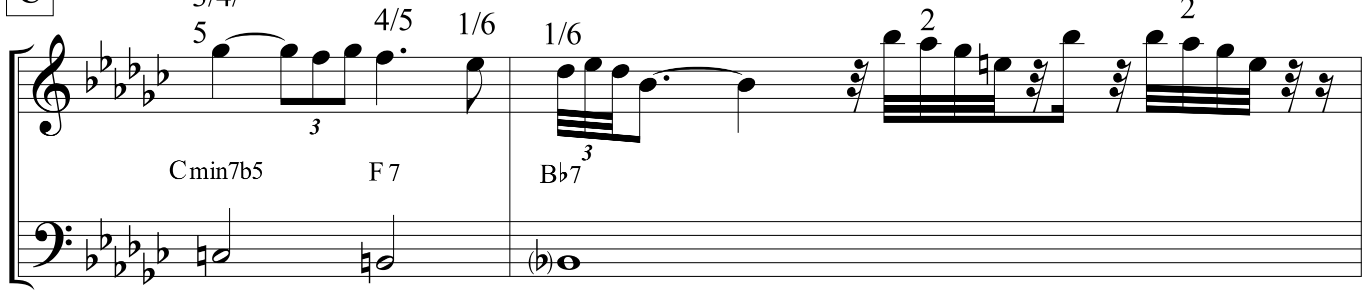
2

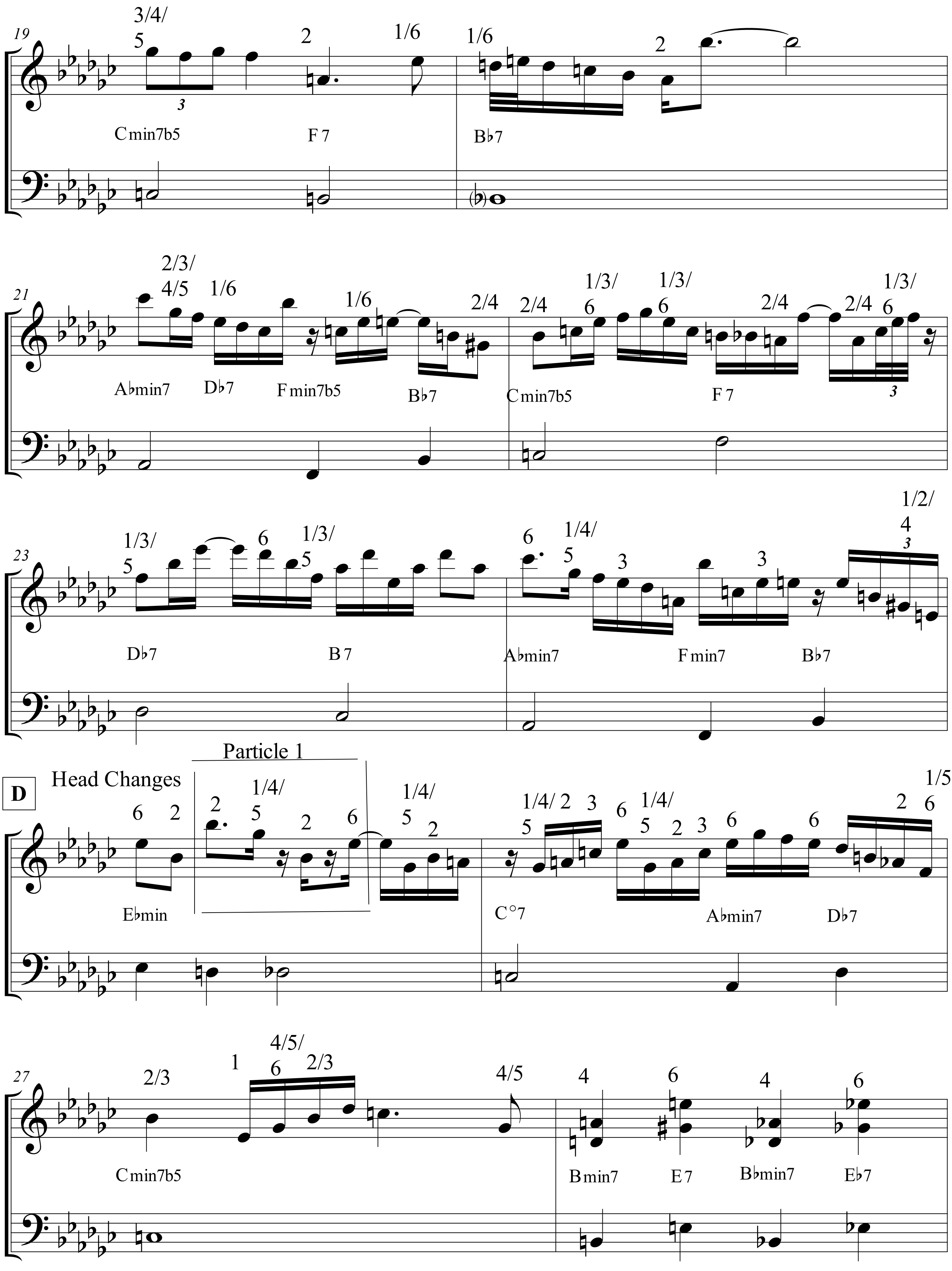
B Head Changes

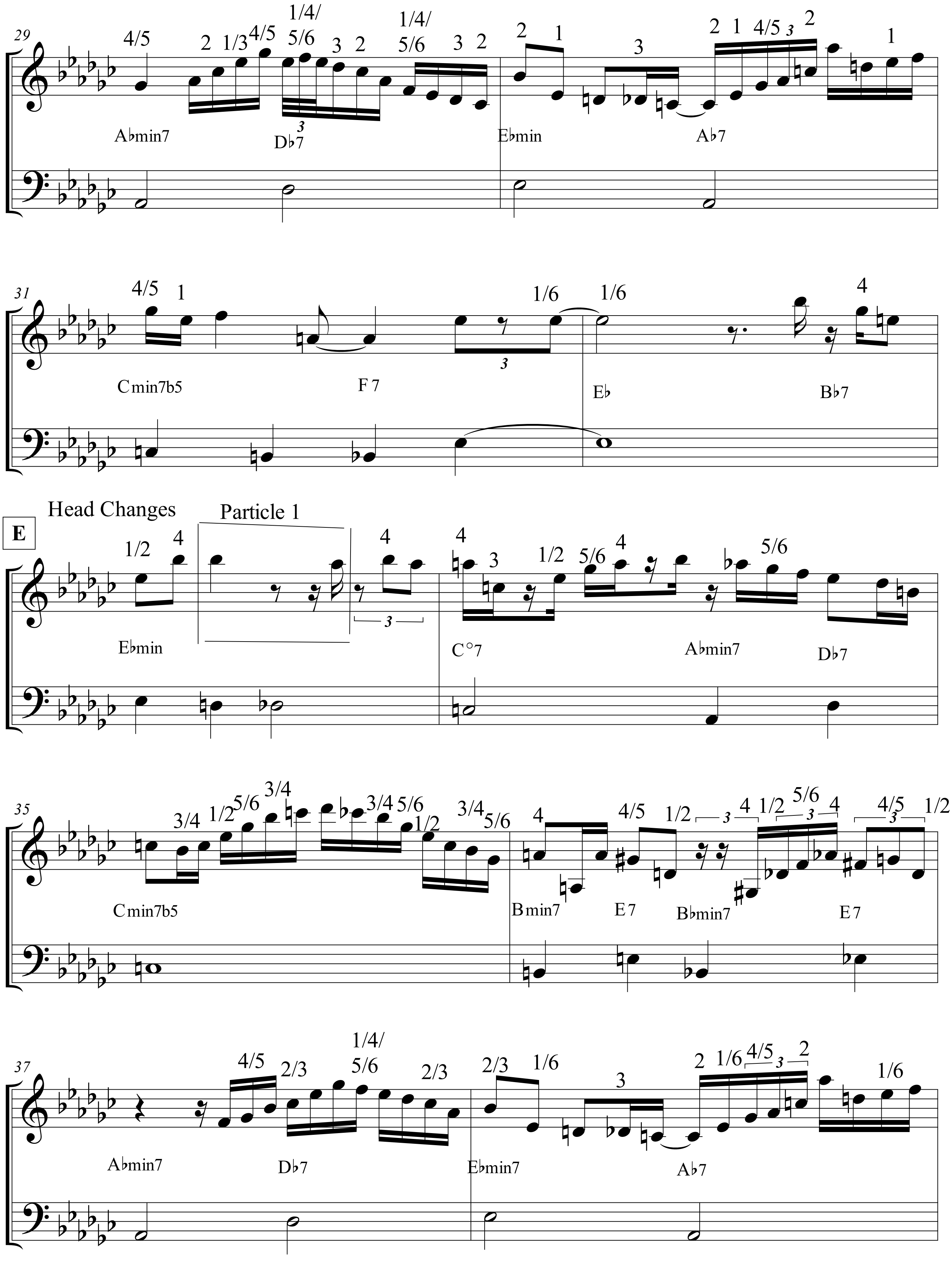

Particle 1
'Round Midnight
1/2
4
1/2
5/6
4
5/6
1/2
3
4
1/2
3/4
1/2
5/6
1/2/
5/6
3/4
1/2/
5/6
3
E♭min
C°7
A♭min7
D♭7
11
1/2
5/6
3/4
3/4
5/6
1/2
1/2
4
4/5
1/2
6
4
4
6
1/2
3
Cmin7b5
Bmin7
E7
B♭min7
E♭7
13
2/3
2/3
1/6
1/4/
5/6
2/3
1/4/
5/6
2
1/6
3
1/6
4/5
2/3
1/6
A♭min7
D♭7
E♭min7
A♭7
15
4/5
1/6
3
2
1/6
1/6
2/3/
4/5
1/6
2/3/
4/5
1/6
2/3/
4/5
1/6
2/3/
4/5
Cmin7b5
F7
E♭
9
9

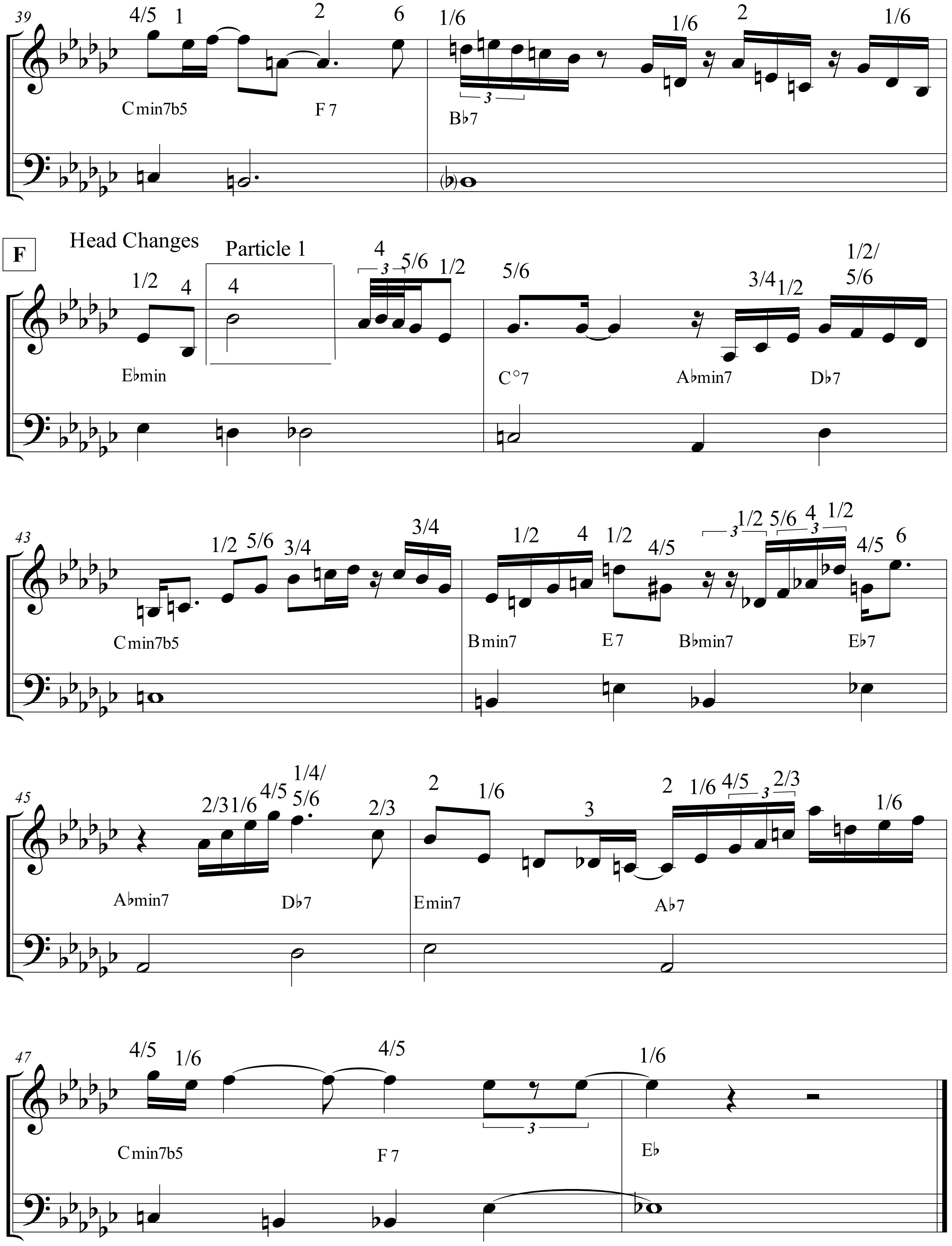
Bridge Changes

C


3/4/
5
4/5
1/6
1/6
2
2
Cmin7b5
F7
B♭7
(♭)

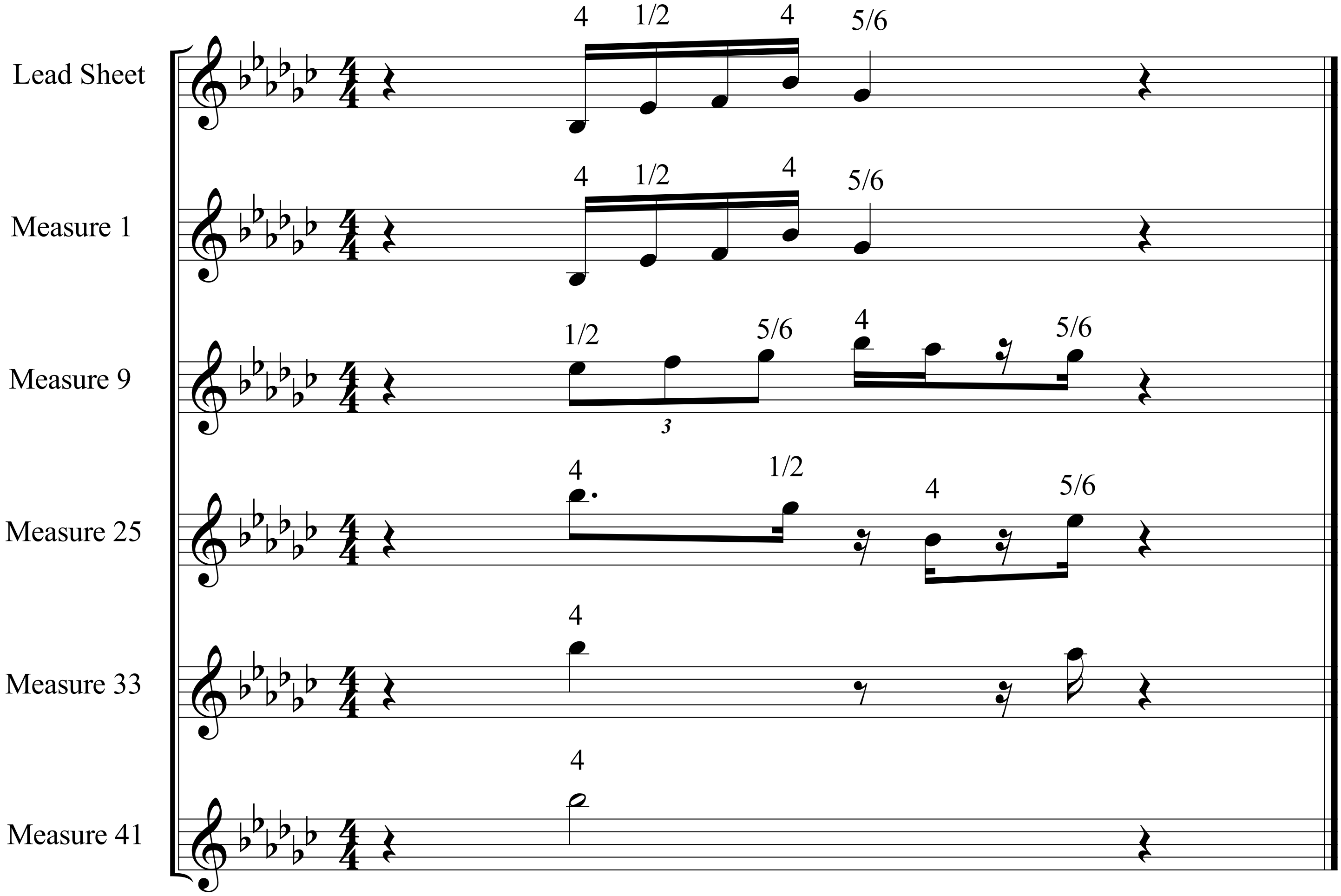

19
Cmin7b5
F 7
B♭7
21
A♭min7
D♭7
F min7b5
B♭7
C min7b5
F 7
23
D♭7
B 7
A♭min7
F min7
B♭7
D
Head Changes
Particle 1
E♭min
C°7
A♭min7
D♭7
27
C min7b5
B min7
E 7
B♭min7
E♭7


29
4/5
2 1/3 4/5
1/4/ 5/6
3 2
1/4/ 5/6
3 2
3
A♭min7
D♭7
2 1
3
2 1 4/5 3 2
1
E♭min
A♭7
31
4/5 1
3
1/6
1/6
4
Cmin7b5
F7
E♭
B♭7
Head Changes
Particle 1
E
1/2 4
4
3
4
3 1/2 5/6 4
5/6
E♭min
C°7
A♭min7
D♭7
35
3/4 1/2 5/6 3/4
3/4 5/6 1/2
3/4 5/6
Cmin7b5
4
4/5 1/2
3 4 1/2 5/6 3 4
4/5 3 1/2
Bmin7
E7
B♭min7
E7
37
4/5 2/3
1/4/ 5/6
2/3
A♭min7
D♭7
2/3 1/6
3
2 1/6 4/5 3 2
1/6
E♭min7
A♭7


39
4/5
1
2
6
1/6
1/6
2
1/6
3
Cmin7b5
F 7
B♭7
(♭)
F
Head Changes
Particle 1
1/2
4
4
4
3
5/6
1/2
5/6
3/4
1/2
1/2/
5/6
E♭min
C°7
A♭min7
D♭7
43
1/2
5/6
3/4
3/4
1/2
4
1/2
4/5
3
1/2
5/6
4
3
1/2
4/5
6
Cmin7b5
Bmin7
E7
B♭min7
E♭7
45
2/3
1/6
4/5
1/4/
5/6
2/3
2
1/6
3
2
1/6
4/5
3
2/3
1/6
A♭min7
D♭7
Emin7
A♭7
47
4/5
1/6
4/5
3
1/6
Cmin7b5
F 7
E♭

Score

Particle 1

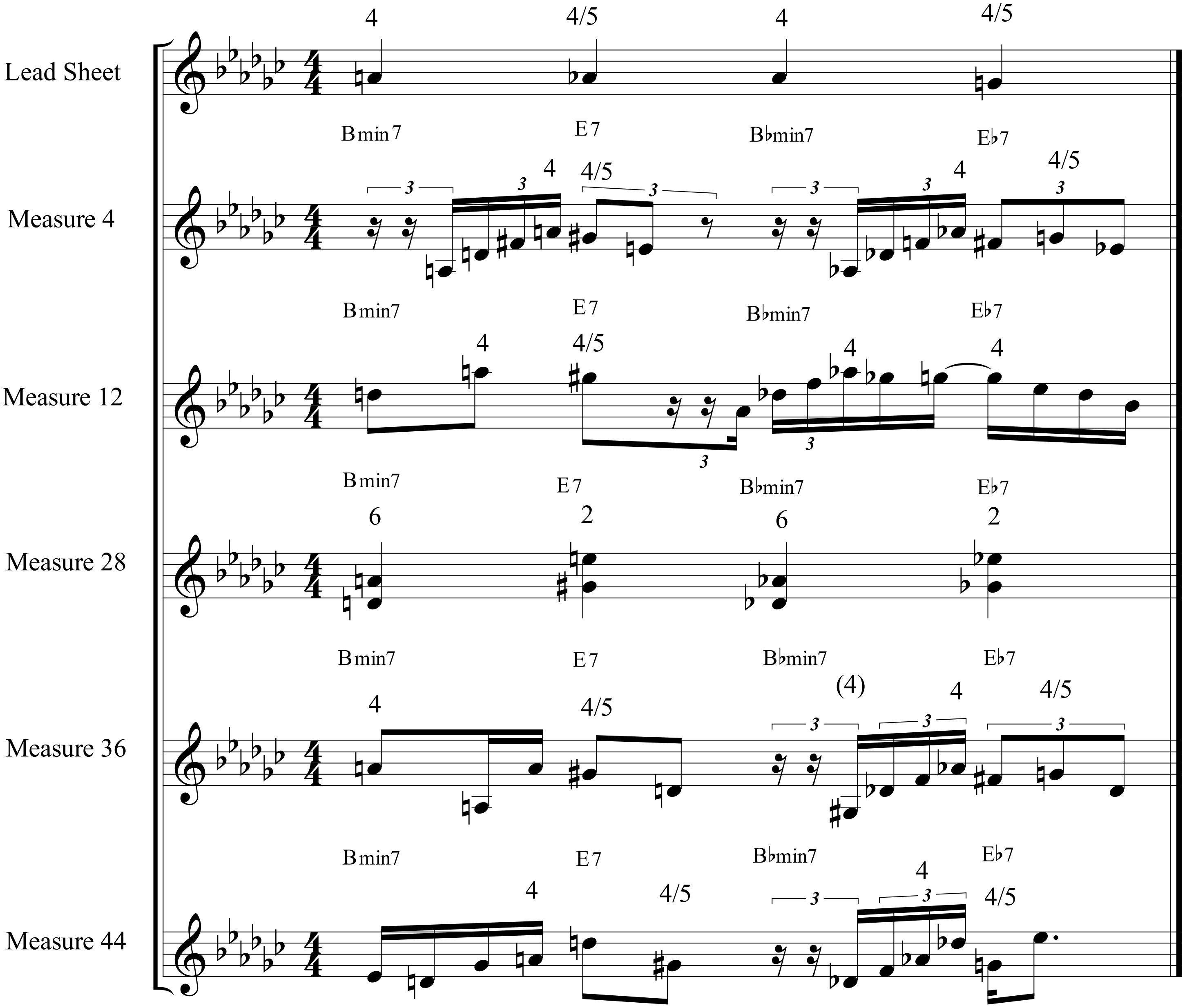

Lead Sheet
4
1/2
4
5/6
Measure 1
4
1/2
4
5/6
Measure 9
1/2
5/6
4
5/6
3
Measure 25
4
1/2
4
5/6
Measure 33
4
Measure 41
4

Particle 1 Expressed as Top Lines Only

Lead Sheet	4 – 1/2 – 4 – 5/6
Monk Measure 1	4 – 1/2 – 4 – 5/6
Monk Measure 9	1/2 – 5/6 – 4 – 5/6
Monk Measure 25	2 – 1/4/5 – 2 – 6
Monk Measure 33	4
Monk Measure 41	4

Score

Particle 2


Lead Sheet
Measure 4
Measure 12
Measure 28
Measure 36
Measure 44
4
4/5
4
4/5
Bmin7
E7
B♭min7
E♭7
3
3
6
2
(4)

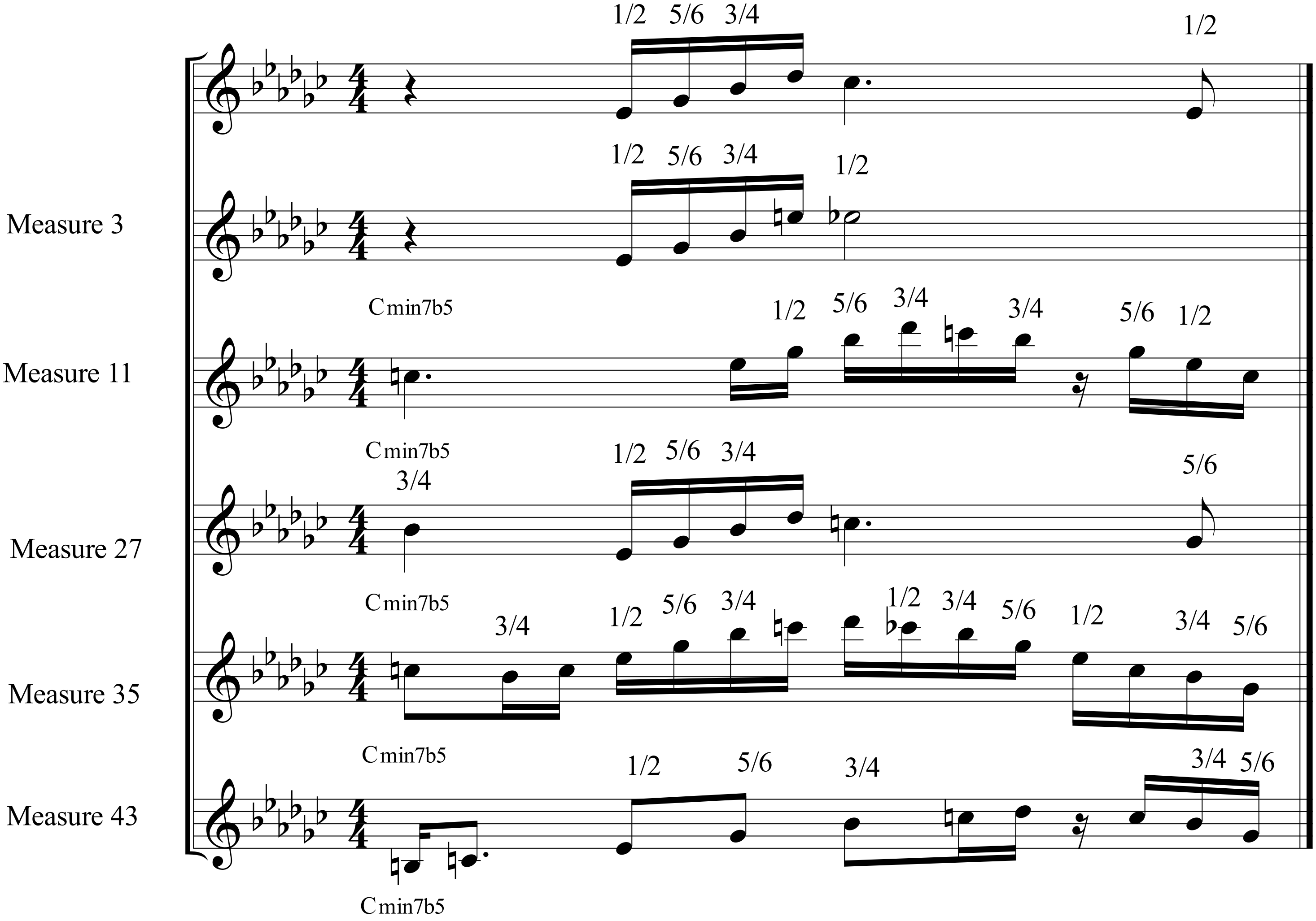
©

Particle 2 Expressed as Top Lines Only

Lead Sheet	4 – 4/5 – 4 – 4/5
Monk Measure 4	4 – 4/5 – 4 – 4/5
Monk Measure 12	4 – 4/5 – 4 – 4
Monk Measure 28	2 – 6 – 2 – 6
Monk Measure 36	4 – 4/5 – 4 – 4/5
Monk Measure 44	4 – 4/5 – 4 – 4/5

Score

Particle 3


1/2 5/6 3/4
1/2
Measure 3
1/2 5/6 3/4
1/2
Measure 11
Cmin7b5
1/2 5/6 3/4 3/4 5/6 1/2
Measure 27
Cmin7b5
3/4
1/2 5/6 3/4
5/6
Measure 35
Cmin7b5
3/4
1/2 5/6 3/4 1/2 3/4 5/6 1/2 3/4 5/6
Measure 43
Cmin7b5
1/2 5/6 3/4 3/4 5/6
Cmin7b5

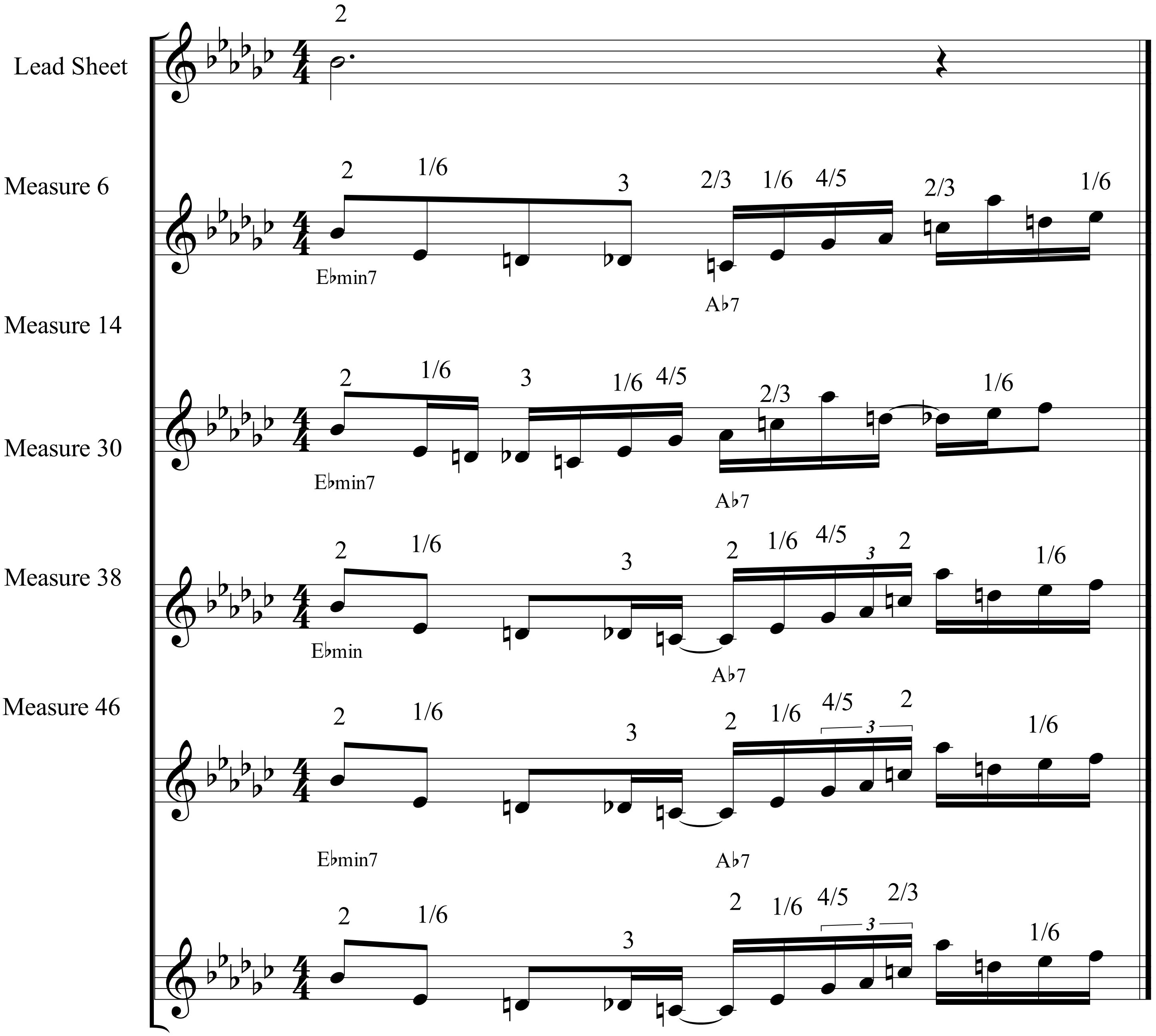
©

Particle 3 Expressed as Top Lines Only

Lead Sheet	1/2 - 5/6 – 3/4 - 1/2
Measure 3	1/2 - 5/6 – 3/4 - 1/2
Measure 11	1/2 - 5/6 – 3/4 - 3/4 - 5/6 – 1/2
Measure 27	3/4 – 1/2 - 5/6 – 3/4 - 2/5/6
Measure 35	3/4 - 1/2 - 5/6 – 3/4 - 1/2 - 3/4 - 5/6 – 1/2 - 3/4 - 5/6
Measure 43	1/2 - 5/6 – 3/4 - 3/4 – 5/6

Score

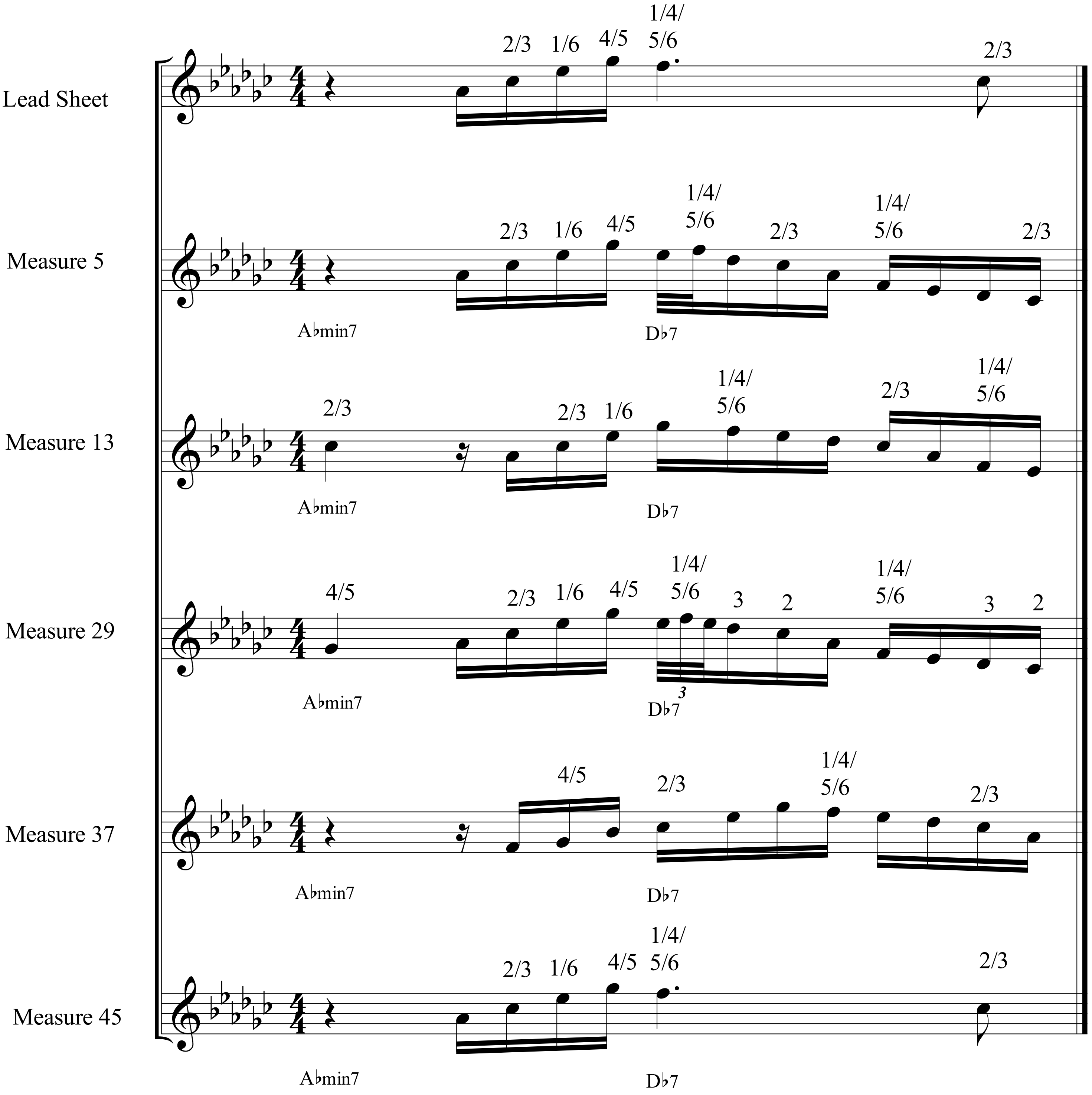
Particle 4


Lead Sheet
2
Measure 6
2
1/6
3
2/3
1/6
4/5
2/3
1/6
E♭min7
A♭7
Measure 14
2
1/6
3
1/6
4/5
2/3
1/6
Measure 30
E♭min7
A♭7
Measure 38
2
1/6
3
2
1/6
4/5
3
2
1/6
E♭min
A♭7
Measure 46
2
1/6
3
2
1/6
4/5
3
2
1/6
E♭min7
A♭7
2
1/6
3
2
1/6
4/5
3
2/3
1/6

Particle 4 Expressed as Top Lines Only

Lead Sheet	2
Measure 6	2 – 1/6 – 3 – 2/3 – 1/6 – 4/5 – 2/3 – 1/6
Measure 14	2 – 1/6 – 3 – 1/6 – 4/5 – 2/3 – 1/6
Measure 30	2 – 1/6 – 3 - 2 – 1/6 – 4/5 – 2 – 1/6
Measure 38	2 – 1/6 – 3 - 2 – 1/6 – 4/5 – 2 – 1/6
Measure 46	2 – 1/6 – 3 - 2 – 1/6 – 4/5 – 2 – 1/6

Particle 5

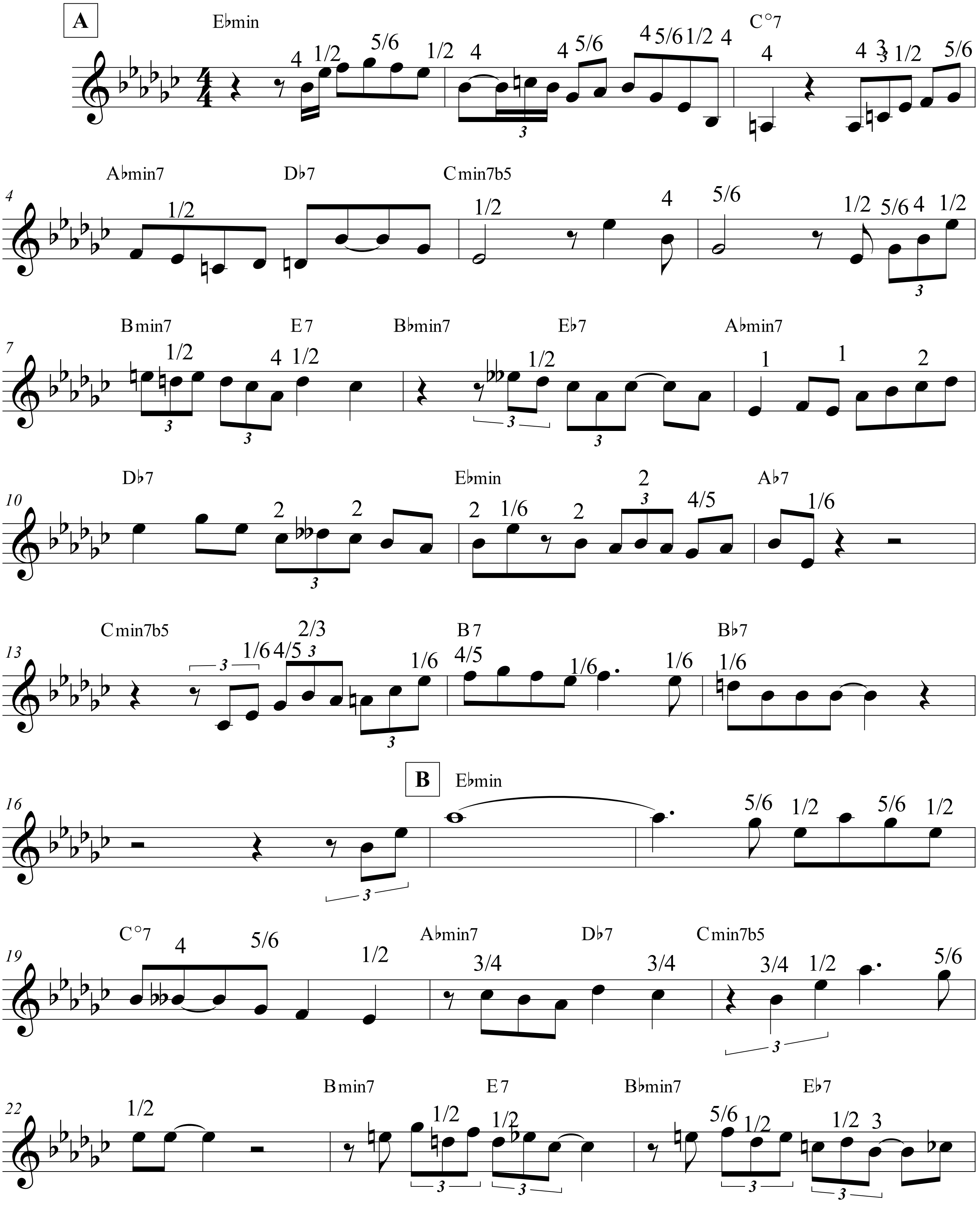

Lead Sheet
2/3
1/6
4/5
1/4/
5/6
2/3
Measure 5
Abmin7
Db7
Measure 13
Measure 29
3
2
Measure 37
Measure 45

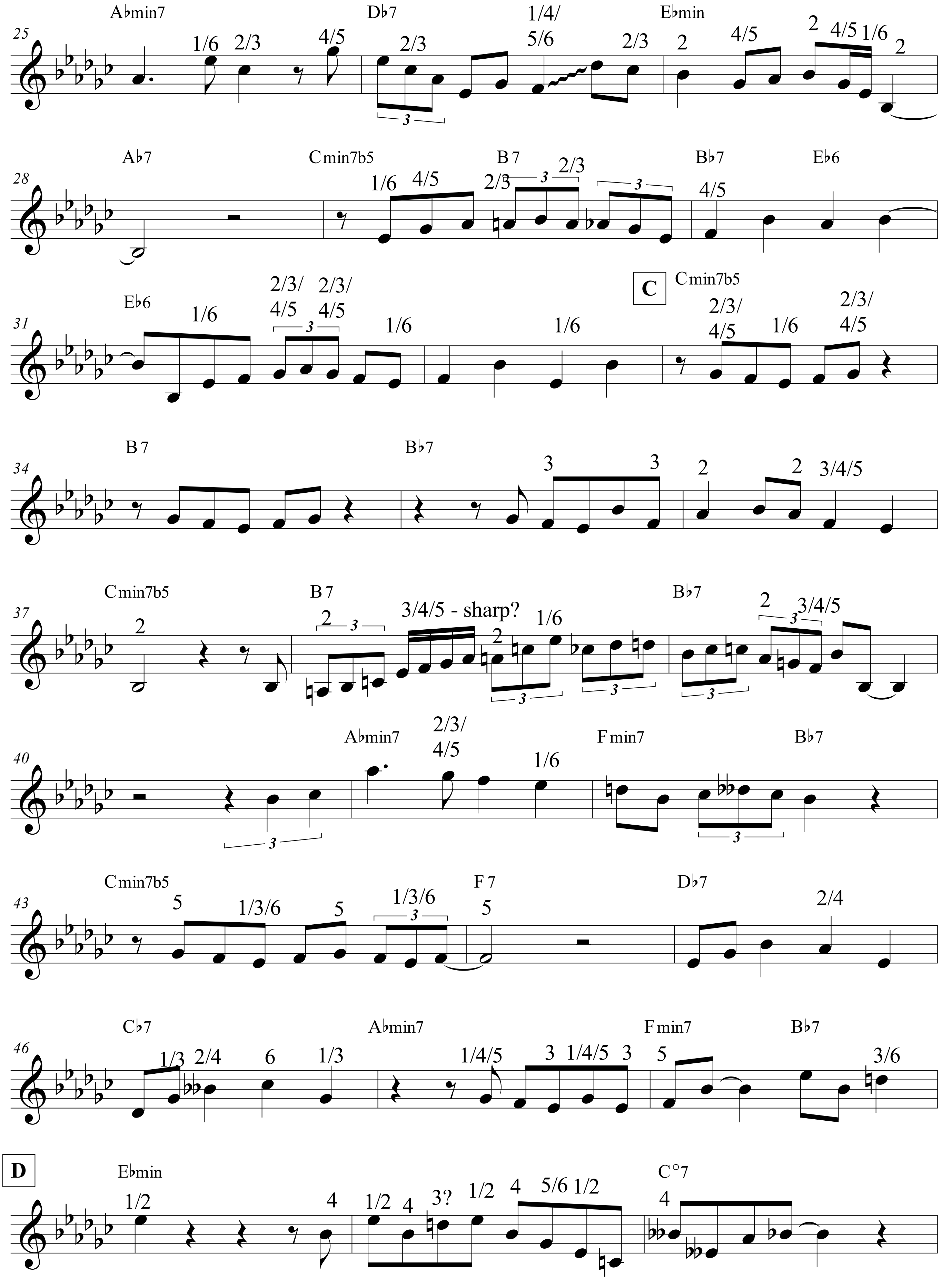
Particle 5 Expressed as Top Lines Only

Lead Sheet	2/3 – 1/6 – 4/5 – 1/4/5/6 – 2/3
Measure 5	2/3 – 1/6 – 4/5 – 1/4/5/6 – 2/3 – 1/4/5/6 – 2/3
Measure 13	2/3 – 2/3 – 1/6 – 1/4/5/6 – 2/3 – 1/4/5/6
Measure 29	4/5 – 2/3 – 1/6 – 4/5 – 1/4/5/6 – 3 – 2 – 1/4/5/6 – 3 – 2
Measure 37	4/5 – 2/3 – 1/4/5/6 – 2/3
Measure 45	2/3 – 1/6 – 4/5 – 1/4/5/6 – 2/3

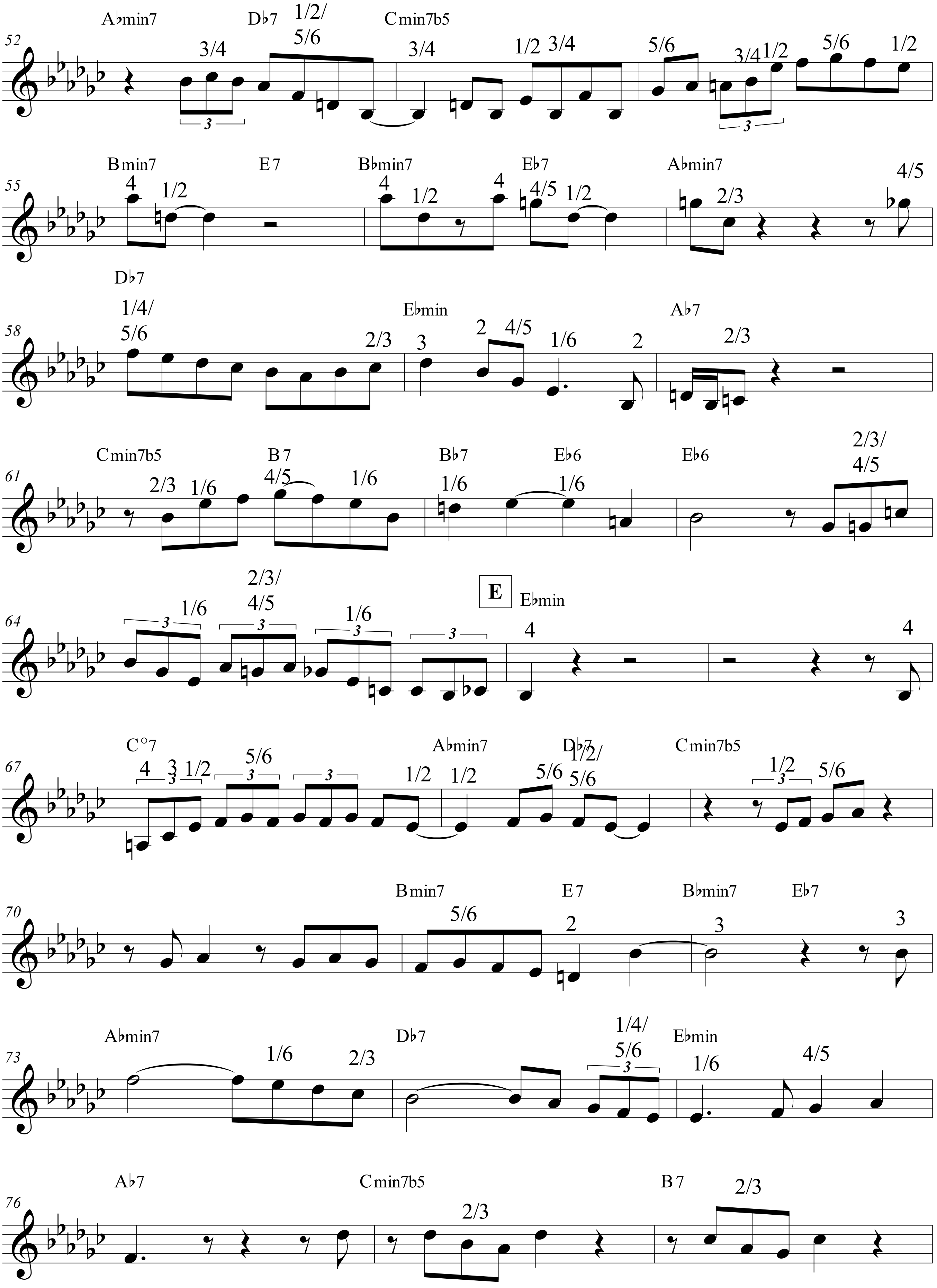
'Round Midnight

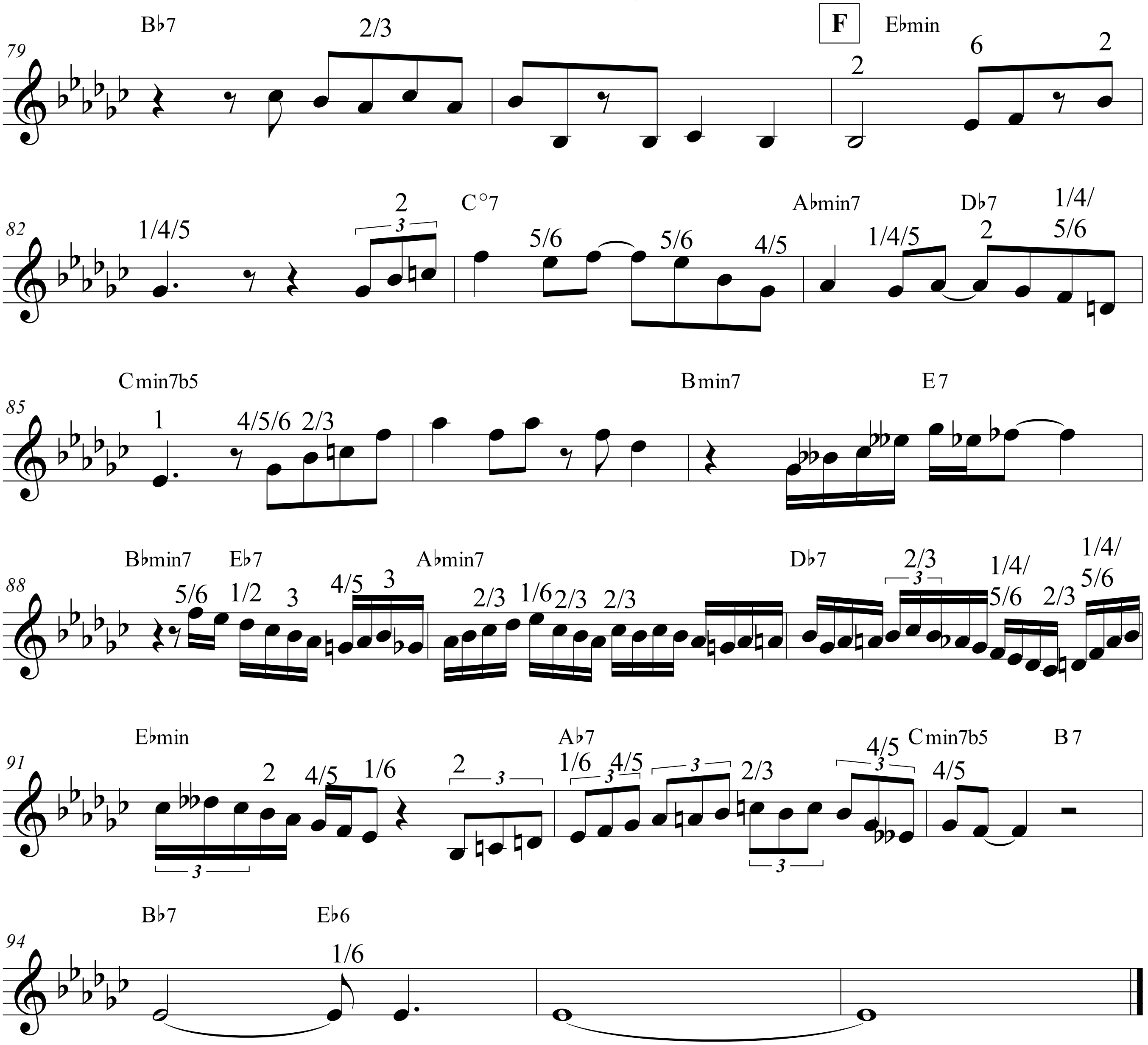
Gerry Mulligan Solo


A
E♭min
4 1/2 5/6 1/2 4 4 5/6 4 5/6 1/2 4
C°7
4 4 3 1/2 5/6
4
A♭min7
D♭7
Cmin7b5
1/2 1/2 4 5/6 1/2 5/6 4 1/2
7
Bmin7
E7
B♭min7
E♭7
A♭min7
1/2 4 1/2 1/2 1 1 2
10
D♭7
E♭min
A♭7
2 2 2 1/6 2 2 4/5 1/6
13
Cmin7b5
B7
B♭7
1/6 4/5 2/3 1/6 4/5 1/6 1/6 1/6
16
B
E♭min
5/6 1/2 5/6 1/2
19
C°7
A♭min7
D♭7
Cmin7b5
4 5/6 1/2 3/4 3/4 3/4 1/2 5/6
22
Bmin7
E7
B♭min7
E♭7
1/2 1/2 1/2 5/6 1/2 1/2 3


25
A♭min7
1/6
2/3
4/5
D♭7
2/3
1/4/
5/6
2/3
E♭min
2
4/5
2
4/5
1/6
2
3
28
A♭7
Cmin7b5
1/6
4/5
B7
2/3
2/3
3
3
B♭7
E♭6
4/5
31
E♭6
1/6
2/3/
4/5
2/3/
4/5
3
1/6
1/6
C
Cmin7b5
2/3/
4/5
1/6
2/3/
4/5
34
B7
B♭7
3
3
2
2
3/4/5
37
Cmin7b5
2
B7
2
3
3/4/5 - sharp?
2
1/6
3
3
B♭7
2
3
3/4/5
3
40
3
A♭min7
2/3/
4/5
1/6
Fmin7
B♭7
3
43
Cmin7b5
5
1/3/6
5
1/3/6
3
F7
5
D♭7
2/4
46
C♭7
1/3
2/4
6
1/3
A♭min7
1/4/5
3
1/4/5
3
Fmin7
5
B♭7
3/6
D
E♭min
1/2
4
1/2
4
3?
1/2
4
5/6
1/2
C°7
4

'Round Midnight

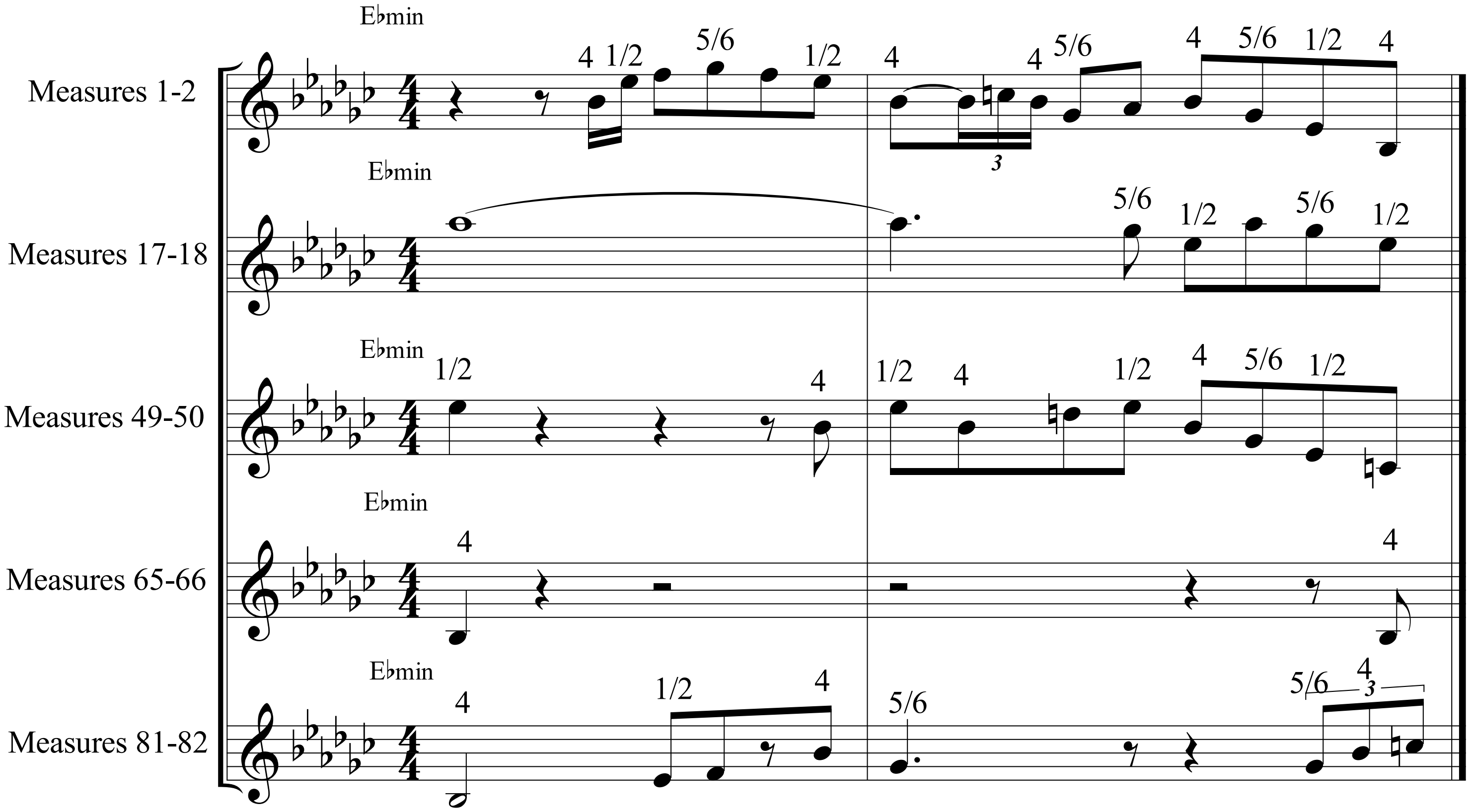

52
A♭min7
D♭7
C min7b5
55
B min7
E 7
B♭min7
E♭7
A♭min7
D♭7
58
E♭min
A♭7
61
C min7b5
B 7
B♭7
E♭6
E♭6
64
E
E♭min
67
C°7
A♭min7
D♭7
C min7b5
70
B min7
E 7
B♭min7
E♭7
73
A♭min7
D♭7
E♭min
76
A♭7
C min7b5
B 7


79
B♭7
2/3
F
E♭min
2
6
2
82
1/4/5
2
3
C°7
5/6
5/6
4/5
A♭min7
1/4/5
D♭7
2
1/4/
5/6
85
Cmin7b5
1
4/5/6
2/3
Bmin7
E7
88
B♭min7
E♭7
5/6
1/2
3
4/5
3
A♭min7
2/3
1/6
2/3
2/3
D♭7
2/3
3
1/4/
5/6
2/3
1/4/
5/6
91
E♭min
2
4/5
1/6
3
2
3
A♭7
1/6
3
4/5
3
2/3
3
4/5
3
Cmin7b5
4/5
B7
94
B♭7
E♭6
1/6

Score

Particle 1

Gerry Mulligan


Measures 1-2
Measures 17-18
Measures 49-50
Measures 65-66
Measures 81-82
E♭min
4
1/2
5/6
3

©

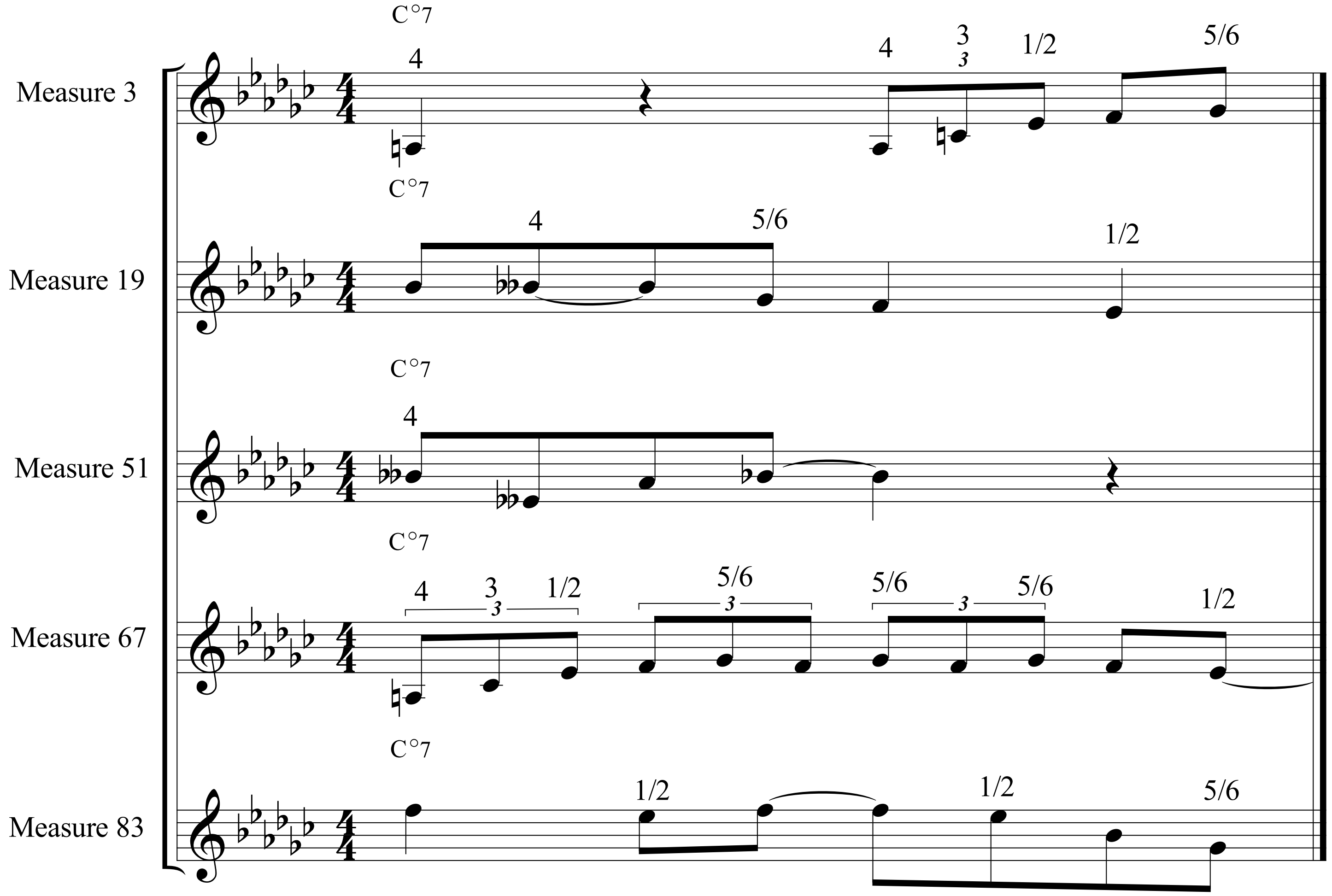
Particle 1 Expressed as Top Lines Only – Gerry Mulligan

Lead Sheet	4 – 1/2 – 4 – 5/6
Mulligan Measure 1-2	4 – 1/2 – 5/6 – 1/2 – 4 – 4 – 5/6 – 4 – 5-6 – 1/2 - 4
Mulligan Measure 17-18	5/6 – 1/2 – 5/6 – 1/2
Mulligan Measure 49-50	1/2 – 4 – 1/2 – 4 – 5/6 – 5/6 - 4
Mulligan Measure 65-66	4 - 4
Mulligan Measure 81-82	4 – 1/2 – 4 – 5/6 – 5/6 - 4

Score

Particle 2

Gerry Mulligan


Measure 3
C°7
4
4
3
1/2
5/6
Measure 19
C°7
4
5/6
1/2
Measure 51
C°7
4
Measure 67
C°7
4
3
1/2
5/6
5/6
5/6
1/2
Measure 83
C°7
1/2
1/2
5/6

©

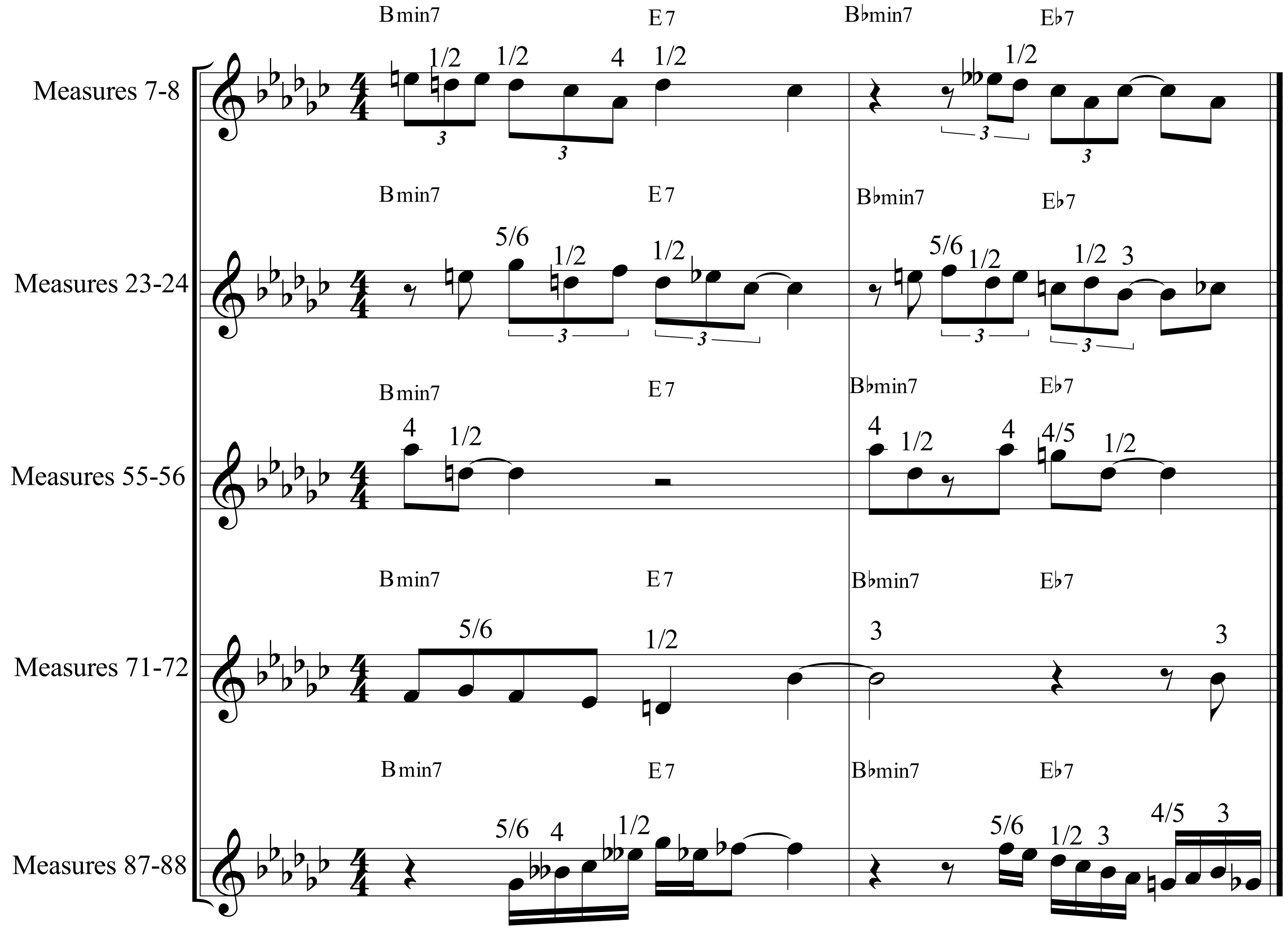
Particle 2 Expressed as Top Lines Only - Mulligan

Mulligan Measure 3	4 – 4 – 1/2 – 5/6
Mulligan Measure 19	4 – 5/6 – 1/2
Mulligan Measure 51	4
Mulligan Measure 67	4 – 1/2 – 5/6 – 5/6 – 5/6 – 1/2
Mulligan Measure 83	1/2 – 1/2 – 5/6

Score

Particle 3

Gerry Mulligan


Measures 7-8
Measures 23-24
Measures 55-56
Measures 71-72
Measures 87-88
Bmin7
E7
B♭min7
E♭7
1/2
4
5/6
3
4/5

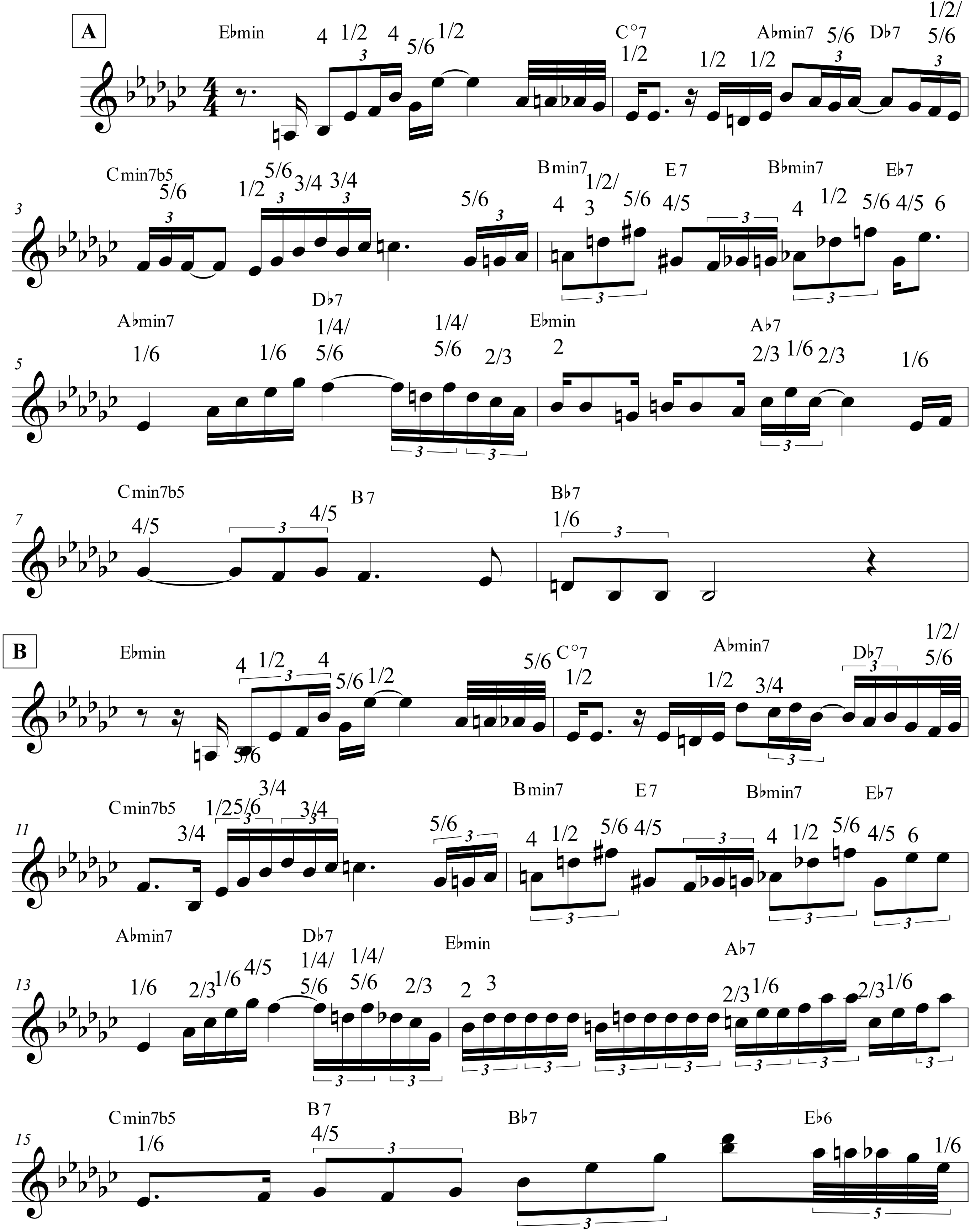
©

Particle 3 Expressed as Top Lines Only - Mulligan

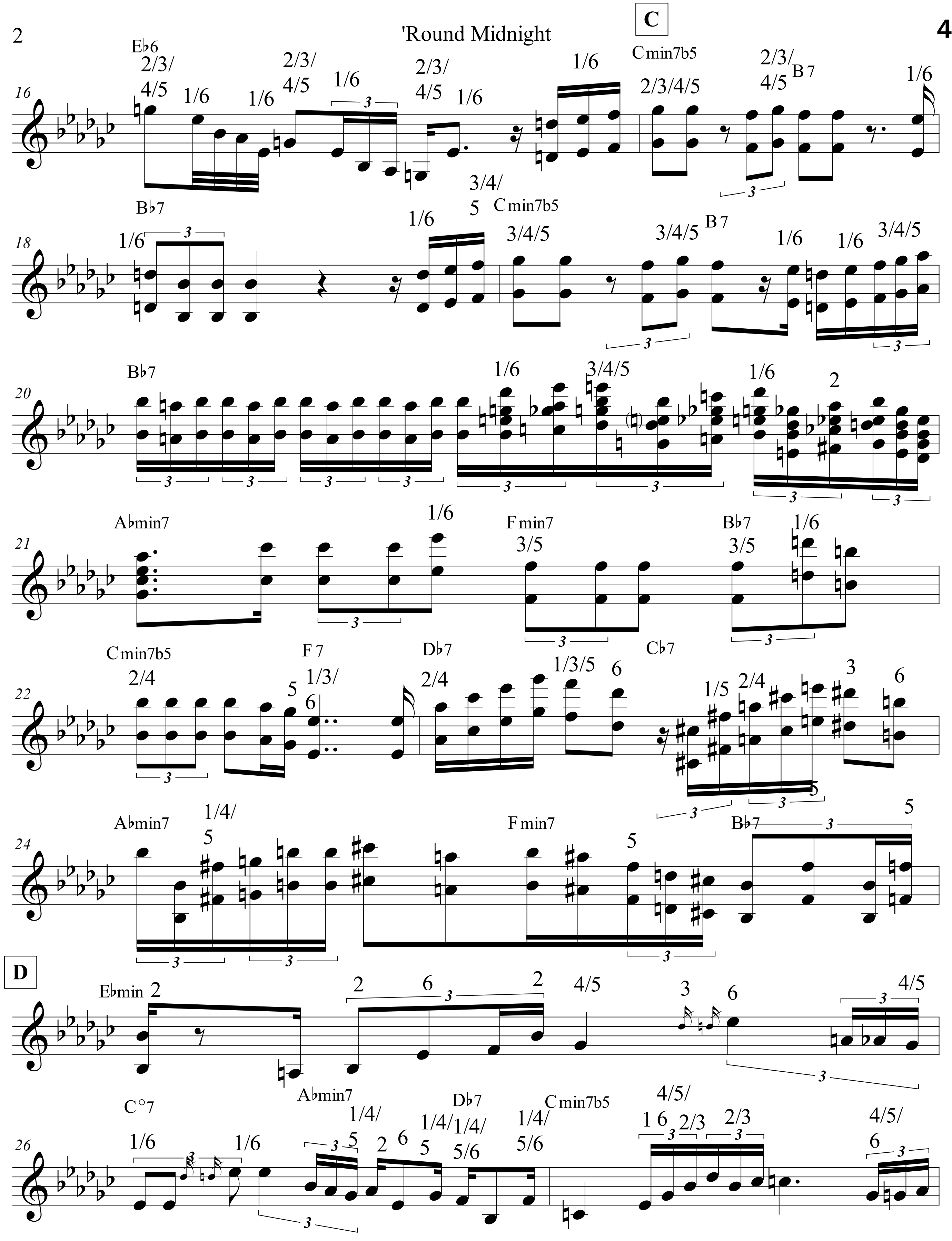
Mulligan Measure 7-8	1/2 – 1/2 – 4 – 1/2 – 1/2
Mulligan Measure 23-24	5/6 – 1/2 – 1/2 – 5/6 – 1/2 – 1/2 - 3
Mulligan Measure 55-56	4 – 1/2 – 4 – 1/2 – 4 – 4/5 - 12
Mulligan Measure 71-72	5/6 – 1/2 – 3 – 3
Mulligan Measure 87-88	5/6 – 4 – 1/2 – 5/6 – 1/2 – 3 – 4/5 – 3

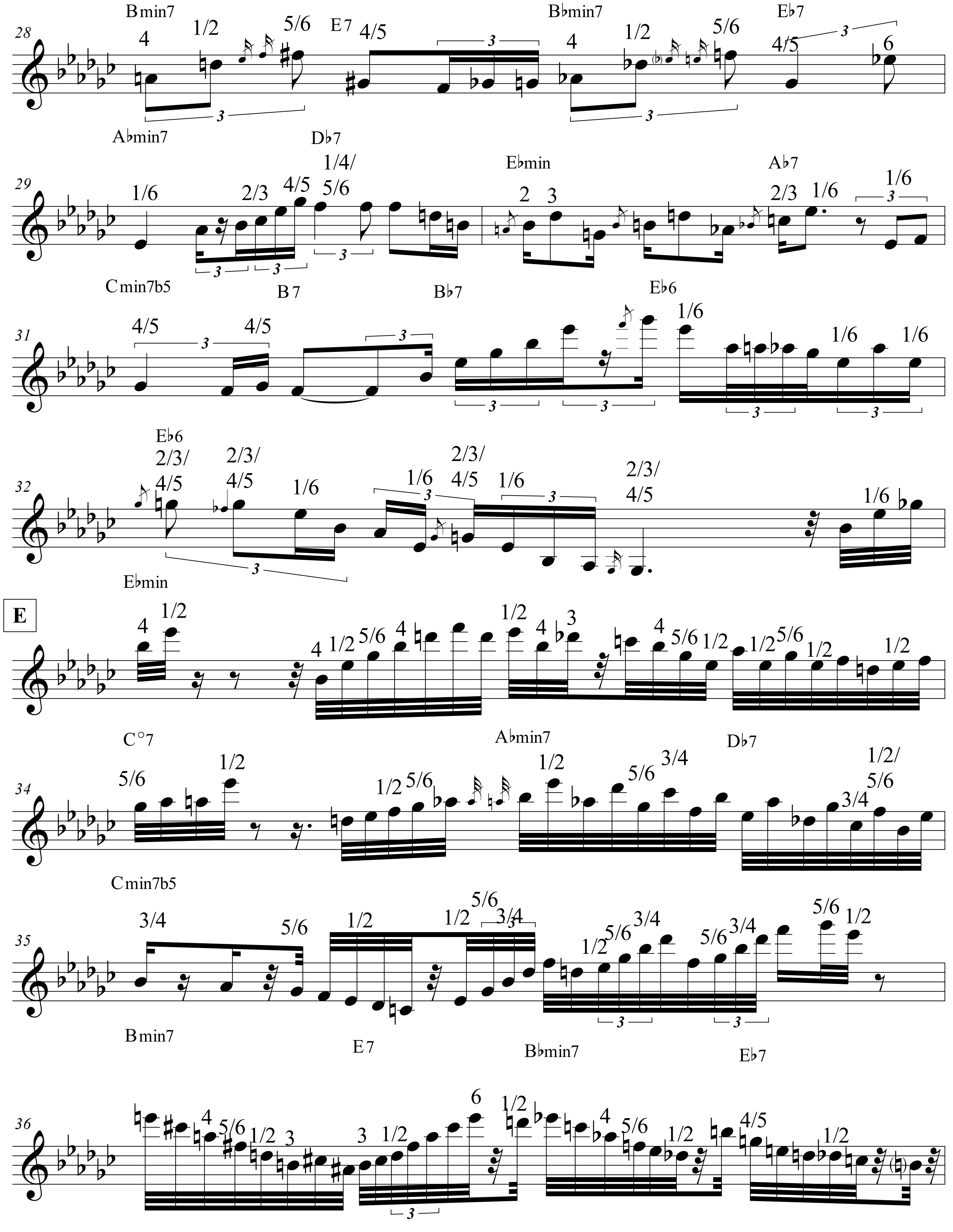
'Round Midnight

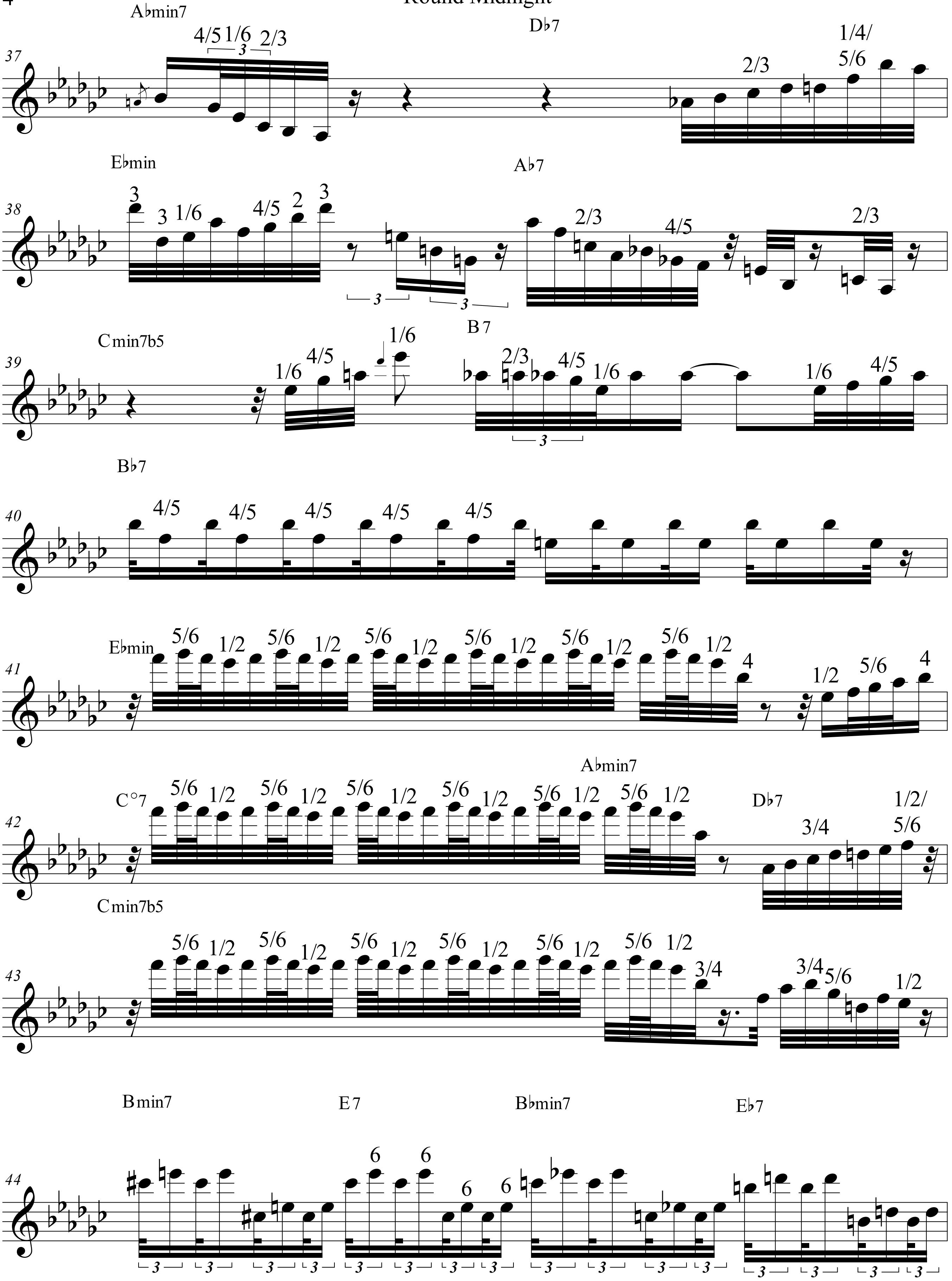
Wes Montgomery

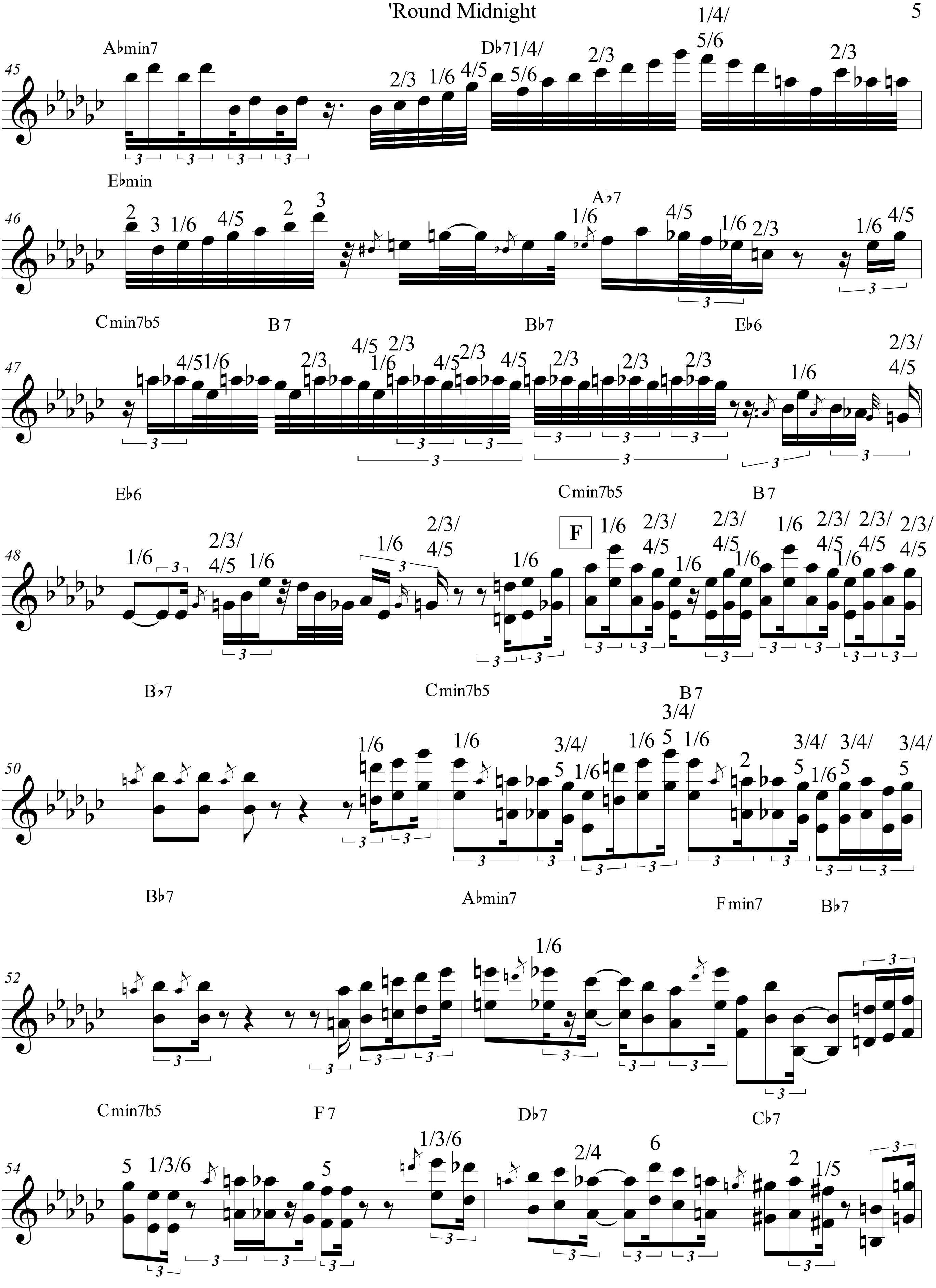

A
E♭min
C°7
A♭min7
D♭7
Cmin7b5
Bmin7
E7
B♭min7
E♭7
A♭min7
D♭7
E♭min
A♭7
Cmin7b5
B7
B♭7
B
E♭min
C°7
A♭min7
D♭7
Cmin7b5
Bmin7
E7
B♭min7
E♭7
A♭min7
D♭7
E♭min
A♭7
Cmin7b5
B7
B♭7
E♭6

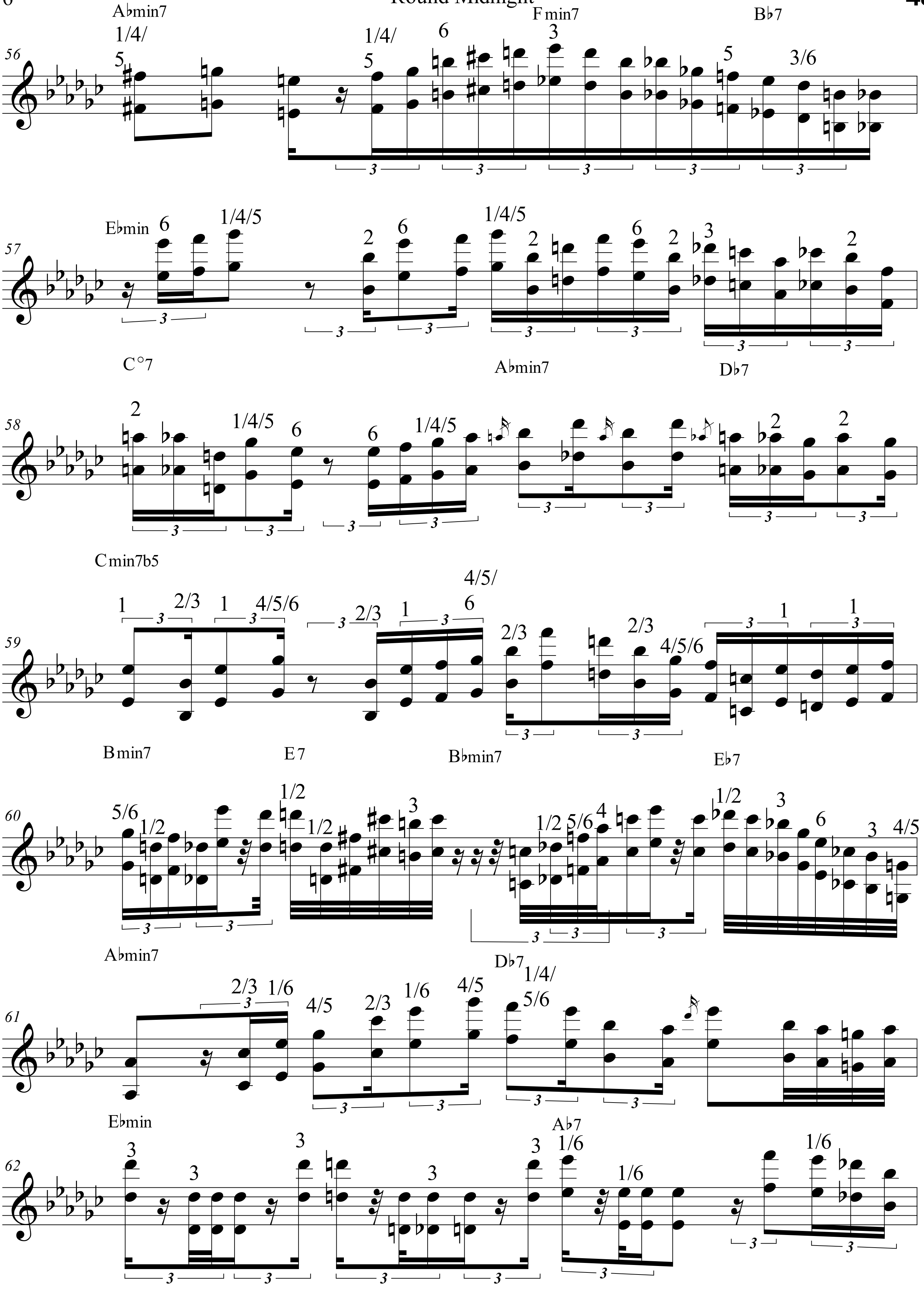
©

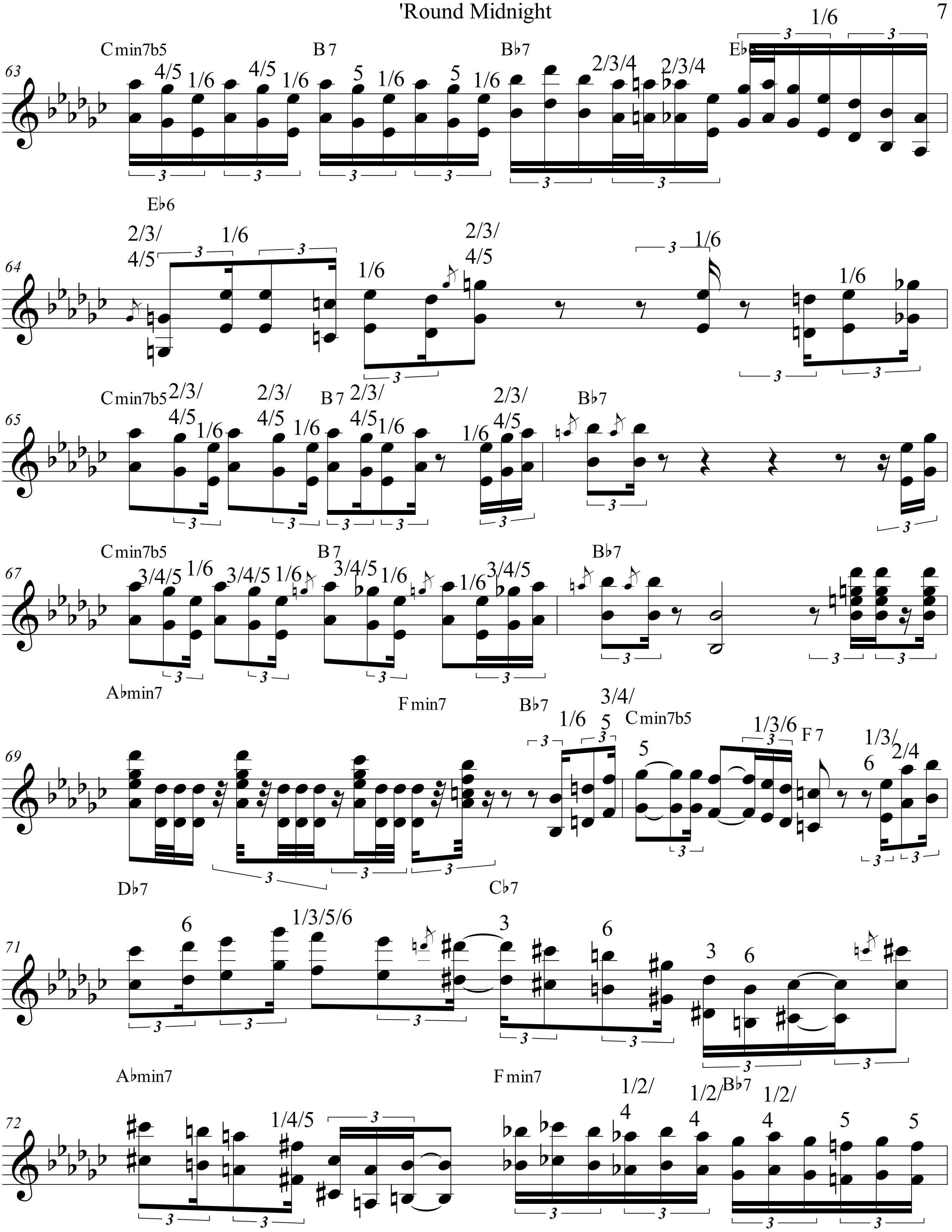

C
E♭6
C min7b5
B 7
B♭7
A♭min7
F min7
F 7
D♭7
C♭7
D
E♭min
C°7
16
18
20
21
22
24
26

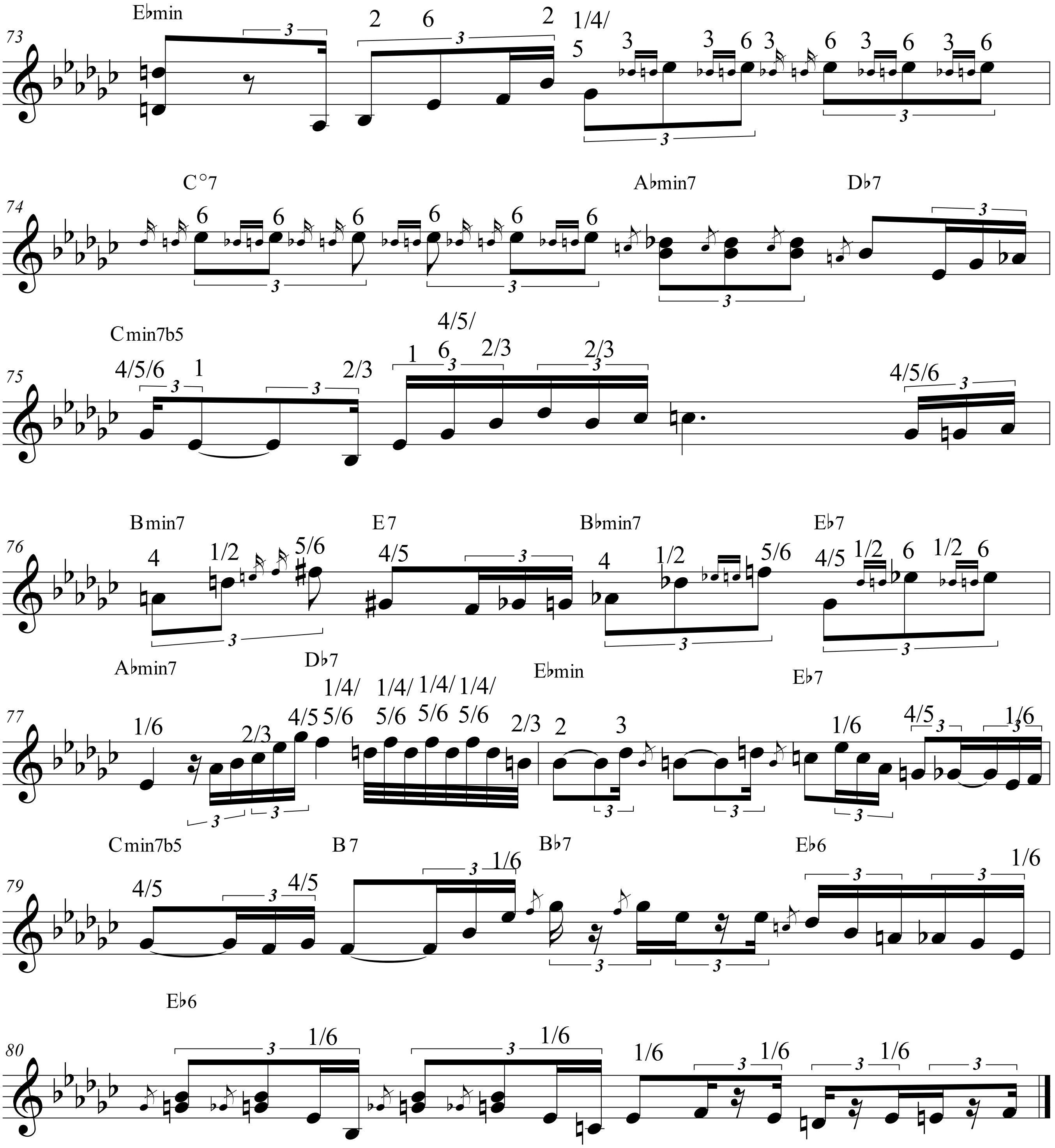

28
Bmin7
E7
B♭min7
E♭7
A♭min7
D♭7
29
E♭min
A♭7
Cmin7b5
B7
31
B♭7
E♭6
32
E♭6
E♭min
E
C°7
34
A♭min7
D♭7
Cmin7b5
35
Bmin7
E7
B♭min7
E♭7
36


37
A♭min7
4/5 1/6 2/3
3
D♭7
2/3
1/4/
5/6
38
E♭min
3 3 1/6 4/5 2 3
A♭7
2/3 4/5 2/3
3
3
39
Cmin7b5
1/6 4/5 1/6
B7
2/3 4/5 1/6 1/6 4/5
3
40
B♭7
4/5 4/5 4/5 4/5 4/5
41
E♭min
5/6 1/2 5/6 1/2 5/6 1/2 5/6 1/2 5/6 1/2 5/6 1/2 4
1/2 5/6 4
42
C°7
5/6 1/2 5/6 1/2 5/6 1/2 5/6 1/2 5/6 1/2 5/6 1/2
A♭min7
D♭7
3/4 1/2/
5/6
43
Cmin7b5
5/6 1/2 5/6 1/2 5/6 1/2 5/6 1/2 5/6 1/2 5/6 1/2 3/4
3/4 5/6 1/2
44
Bmin7
E7
B♭min7
E♭7
6 6 6 6
3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3


45
A♭min7
D♭7
46
E♭min
A♭7
47
Cmin7b5
B7
B♭7
E♭6
48
E♭6
Cmin7b5
B7
F
50
B♭7
Cmin7b5
B7
52
B♭7
A♭min7
Fmin7
B♭7
54
Cmin7b5
F7
D♭7
C♭7


56
A♭min7
F min7
B♭7
57
E♭min
58
C°7
A♭min7
D♭7
59
Cmin7b5
60
Bmin7
E7
B♭min7
E♭7
61
A♭min7
D♭7
62
E♭min
A♭7

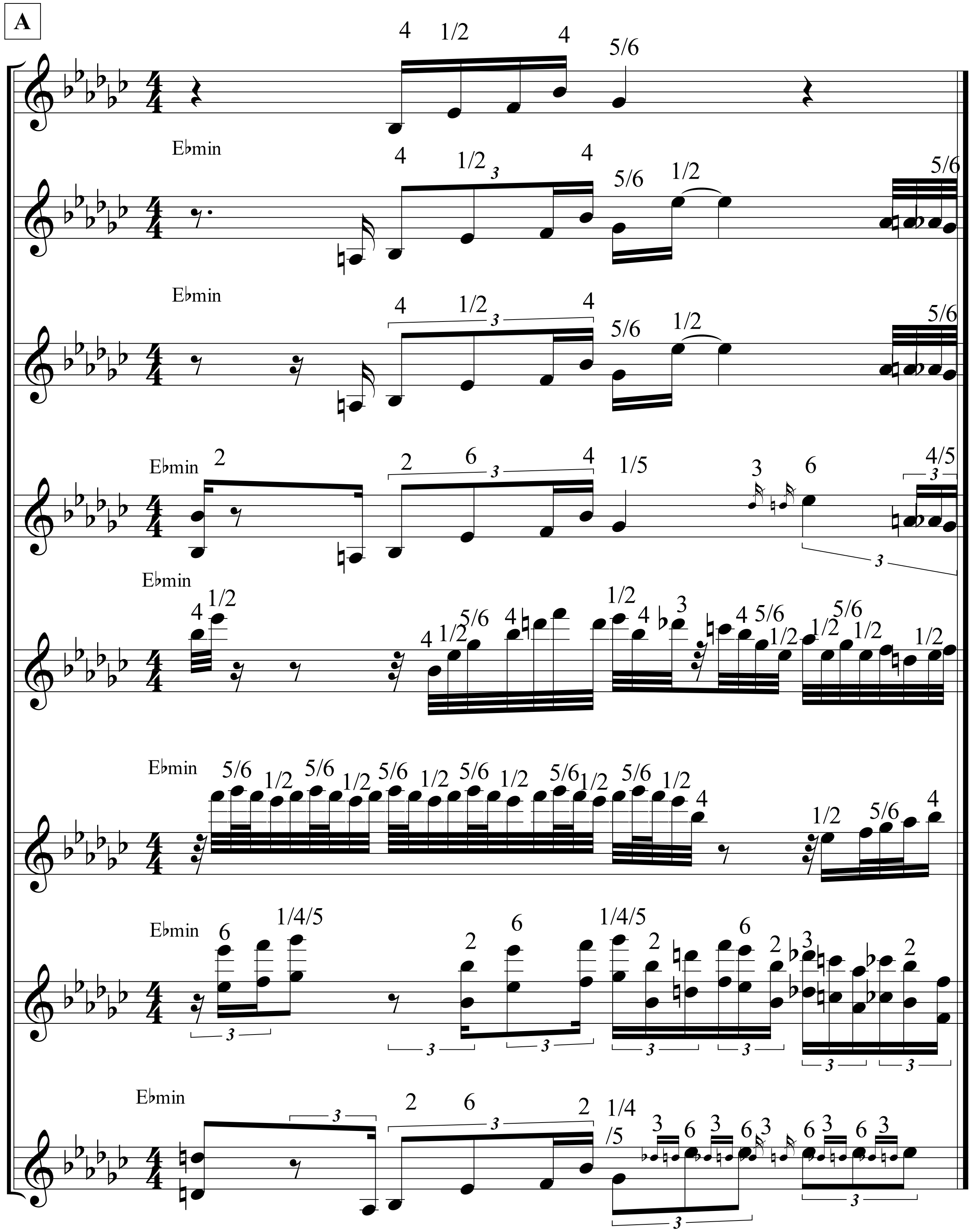

63
Cmin7b5
B 7
B♭7
E♭
7
64
E♭6
65
Cmin7b5
B 7
B♭7
67
Cmin7b5
B 7
B♭7
69
A♭min7
F min7
B♭7
Cmin7b5
F 7
71
D♭7
C♭7
72
A♭min7
F min7
B♭7


73
E♭min
2 6 2
1/4/
5
3 3 6 3 6 3 6 3 6
74
C°7
6 6 6 6 6 6
A♭min7
D♭7
75
Cmin7b5
4/5/6 1
2/3
4/5/
1 6 2/3 2/3
4/5/6
76
Bmin7
4 1/2 5/6
E7
4/5
B♭min7
4 1/2 5/6
E♭7
4/5 1/2 6 1/2 6
77
A♭min7
D♭7
1/6
2/3
4/5 5/6
1/4/
5/6
1/4/
5/6
1/4/
5/6
1/4/
5/6
2/3
E♭min
2 3
E♭7
1/6
4/5 1/6
79
Cmin7b5
4/5 4/5
B7
1/6
B♭7
E♭6
1/6
80
E♭6
1/6 1/6
1/6 1/6 1/6

Score

Particle 1

Wes Montgomery solo


A
Lead Sheet
Measure 1
Measure 9
Measure 25
Measure 33
Measure 41
Measure 57
Measure 73
E♭min
4
1/2
5/6
6
2
3
1/5
4/5
1/4/5
3

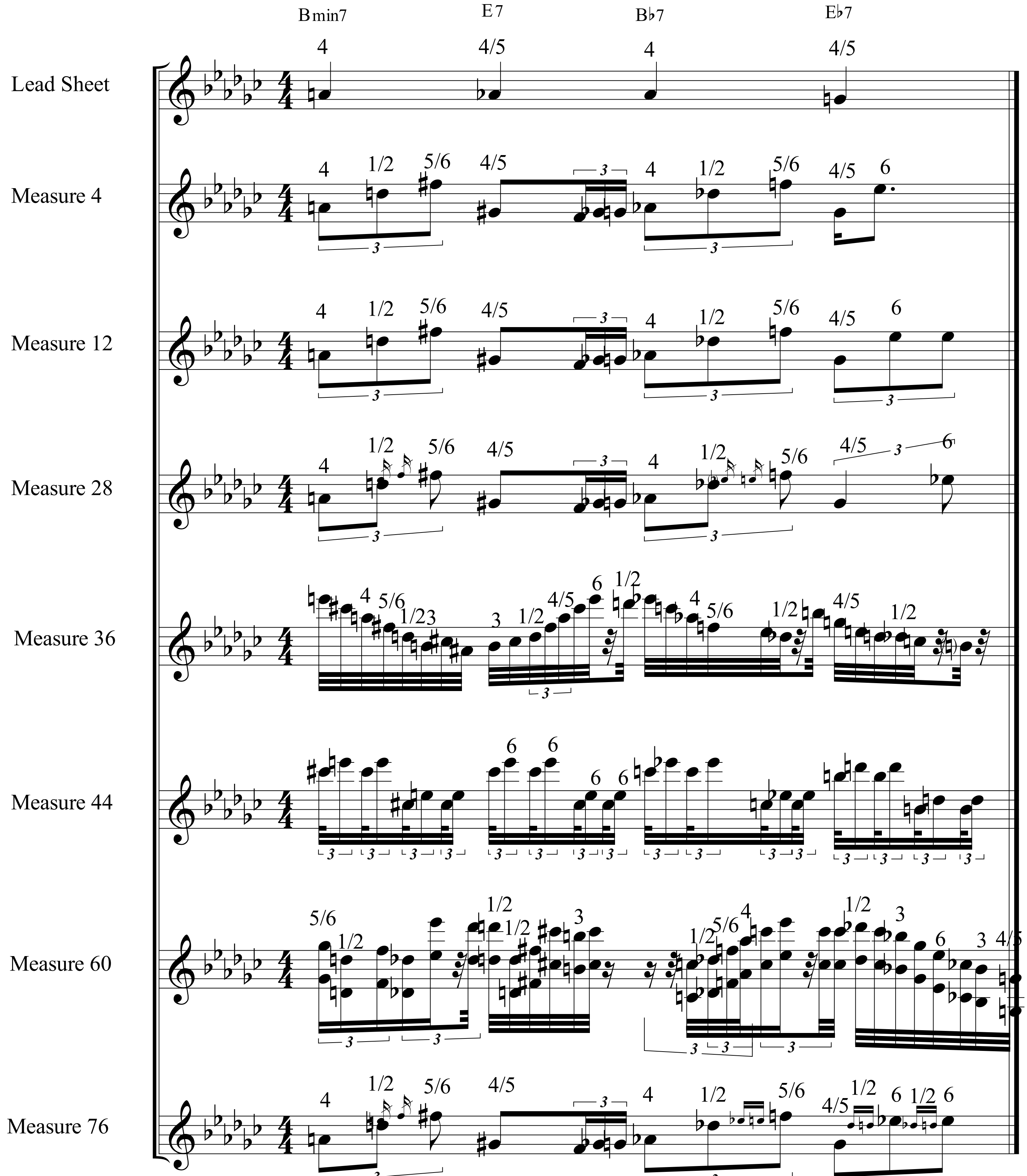
©

Particle 1 Expressed as Top Lines Only - Montgomery

Lead Sheet	4 – 1/2 – 4 – 5/6
Mulligan Measure 1	4 – 1/2 – 4 – 5/6 – 1/2 – 5/6
Mulligan Measure 9	4 – 1/2 – 4 – 5/6 – 1/2 – 5/6
Mulligan Measure 25	2 – 2 – 6 – 4 – 1/5 – 3 – 6 – 1/5
Mulligan Measure 33	4 – 1/2 – 4 – 1/2 -5/6 – 4 – 1/2 – 4 – 3 – 4 – 5/6 – 1/2 – 1/2 – 5/6 – 1/2 – 1/2
Mulligan Measure 41	5/6 – 1/2 – 5/6 – 1/2 – 5/6 – 1/2 – 5/6 – 1/2 – 5/6 – 1/2 – 5/6 – 1/2 – 4 – 1/2 – 5/6 - 4
Mulligan Measure 57	6 – 1/4/5 – 2 – 6 – 1/4/5 – 2 – 6 – 2 – 3 – 2
Mulligan Measure 73	2 – 6 – 2 – 1/4/5 – 3 – 6 – 3 – 6 – 3 – 6 – 3 – 6 - 3

Particle 2

Wes Mongomery solo


Bmin7
E7
B♭7
E♭7
Lead Sheet
Measure 4
Measure 12
Measure 28
Measure 36
Measure 44
Measure 60
Measure 76
4
4/5
1/2
5/6
6
3
1/2 3

©

Montgomery Particle 2 Expressed as Top Lines Only

Lead Sheet	4 – 4/5 – 4 – 4/5
Montgomery Measure 4	4 – 1/2 - 5/6 - 4/5 – 4 – 1/2 - 5/6 - 4/5
Montgomery Measure 12	4 – 1/2 - 5/6 - 4/5 – 4 – 1/2 - 5/6 - 4/5
Montgomery Measure 28	4 – 1/2 - 5/6 - 4/5 – 4 – 1/2 - 5/6 - 4/5
Montgomery Measure 36	4 – 5/6 – 1/2 – 3 – 3 – 1/2 - 4/5 – 6 – 1/2 - 4 – 5/6 – 1/2 - 4/5 – 1/2
Montgomery Measure 44	6 – 6 – 6 - 6
Montgomery Measure 60	5/6 – 1/2 -1/2 -1/2 – 3 – 1/2 - 5/6 – 4 – 1/2 - 3 – 6 – 3 – 4/5
Montgomery Measure 76	4 – 1/2 - 5/6 - 4/5 – 4 – 1/2 - 5/6 - 4/5 – 1/2 - 6 – 1/2 - 6