She's a No-sleepinest Woman

It's a standard jazz AABA sequence in Ab:

A section (twice):
|Ab - Fm7 - |Bbm7 - Eb7 - |Ab - Fm7 - |Bbm7 - Eb7 - |
|Ab - Ab7 - |Db - Ddim7 - |Eb7_____|_____|

B section:
|Ab7 - - - |Abm7 - Db7 - |Cm7 - F7 - |Cm7 - F7 F7(b5) |
|Bb7 - - - |Bb7 - - - |Eb7_____|_____|

(repeat A section)

The A section is the typical so-called "Rhythm changes" (from Gershwin's I Got Rhythm, an extremely common format in 30s/40s jazz).
The bridge sequence (different from Rhythm changes) is a little indistinct (I wouldn't swear to all the above chords), and seems to be different in the solos - where it follows this more traditional form:

|Ab - - - |Ebm7 - Ab7 - |Db - - - |Db - (C B)|
|Bb7 - - - |Bb7 - - - |Eb7 - - - |Bbm7 - Eb7 - |

You also get A sections with no break, where it resolves to Ab (before another Eb7 turnaround):
|Ab - Fm7 - |Bbm7 - Eb7 - |Ab - Fm7 - |Bbm7 - Eb7 - |
|Ab - Ab7 - |Db - Ddim7 - |Ab/Eb - Eb7 - |Ab - Eb7 -|