Mouse ECG by ECGenie.v3

This is a protocol for EKG recording in conscious mice originally written by Perry Kennedy according to the manual provided by Mouse Specifics, Inc.

Procedures:

1. Snap electrode tile on the platform. Only one direction is right.
2. Turn on the electrodes plateform, the amplifier and the computer.
3. Place a mouse on the electrodes to acclimatize it for 10 min.
4. Click on "Yan Lab" to get to the desktop.
5. Open the acquisition software by clicking on "**Shortcut to mouse ECG**".
6. Click lower right icon to **Start** to preview before recording (X sign is on).
7. Click **Start** again to recording when desired (X sign is off).
8. Stop the recording when you have a stretch of stable recording.
9. Highlight the segment of stable ECG trace, go to File and choose "Save Selection" in the correct folder and give it a name, such as 150310A1.
10. Open the saved selection and highlight the segment of ECG trace and go to File and choose "Export" and "Save". Chose 1 Channel 1 and Current selection and hit OK.
11. **Remember to switch **OFF** electrode recording platform and the amplifier when finished! (Blinking light means time to change 9V battery inside.)

Analysis using e-Mouse

1. Make sure to have the USB Dongle in the port before opening "eMouse Analysis".
2. Click "Select ECG signals" (up left corner) and choose folder where data text files are saved and open one file at a time by clicking "Go".
3. Number of signals analyzed be at least 6; 20-30 are recommended.
4. Top panel shows entire set of signals recorded in black and baseline normalized in red.
5. Bottom panel shows identified peaks of the R-wave of each signal.
6. If the main peaks point downward, then the signal has been recorded as inverted (due to animal orientation during recording).
7. Click **Invert** to flip signal to the desired orientation.
8. Make sure red dots appear on ALL R-peaks. (If not, adjust + or – threshold.)
9. To cut out undesirable sections, click "What If" and select left and right boundaries. This will reduce the number of signals analyzed.
10. Left-click zooms in, right-click zooms out, double-click returns to original view.
11. Click **Go**-shows results of analysis: HR,variability, etc. and example of how peaks are labeled.

12. If you want the image, click "PrtScn" on the keyboard and open Paint on the desktop to paste the image as a different file.
13. Click **Save** to save in "Results" folder. The result is also saved as a JPG file.
14. Results text files can be opened in Excel and multiple and data files assembled by row.