**Response to editorial and reviewers’ comments:**

**Editorial comments:**  
1) All of your previous revisions have been incorporated into the most recent version of the manuscript. In addition, Editor may have made formatting changes and minor copy edits to your manuscript. On the JoVE submission site, you can find the updated manuscript under "file inventory" and download the microsoft word document. **Please use this updated version for any future revisions and track all changes using the track changes function in Microsoft Word**.

**Our response: Done**

2) Formatting: References – Please abbreviate all journal titles and make sure the font matches the rest of the protocol.  
**Our response: Done**

3) Additional detail is required:  
a) 4.1.1 – Are these steps going to be used in 4.2? If these solutions won’t be used in any other part of the video, they should not be highlighted for filming.  
**Our response:** Yes, the solution prepared according to 4.1.1 will be used in 4.1, 4.2 and 5.

b) 4.2.1 – How is the solution delivered?  
**Our response:** Deliver the 10 mM Na-PB (pH 7.0) solution to the SNW surface by using a syringe pump (flow rate: 5.0 mL/hr) for direct contact with the SNW. We modified 4.2.1.

c) 5.3.1 – What is recovery DNA?  
**Our response:** Recovery DNA, which is completely complementary to the target DNA, could re-hybridize with the target DNA and to free the probe DNA (Ref 31). Such a design allowed us to re-confirm the results to exclude false positive signals that were not actually caused by the target DNA as described from line 431 to 449 of the Representative Results section.

d) 5.3.1, 5.4.1 – Are the same loading and wash conditions as in 5.2 used? If so, this needs to be specified. Are these performed after the hybridization using the same device?  
**Our response:** Yes, the same loading and wash conditions are used in all these procedures and yes, the same device is used in Step 5. We modified the procedures in Step 5.

4) There is unnecessary branding in step 1.1.3.1 (IP3650); this should appear in the materials table instead of the protocol.   
**Our response:** We removed it from the text and added this information into materials table.

5) Please take this opportunity to thoroughly proofread your manuscript to ensure that there are no spelling or grammatical errors. Your JoVE editor will not copy-edit your manuscript and any errors in your submitted revision may be present in the published version.  
**Our response:** We proofread our manuscript again and made necessary correction.

6) Please disregard the comment below if all of your figures are original.  
If you are re-using figures from a previous publication, you must obtain explicit permission to re-use the figure from the previous publisher (this can be in the form of a letter from an editor or a link to the editorial policies that allows you to re-publish the figure). Please upload the text of the re-print permission (may be copied and pasted from an email/website) as a Word document to the Editorial Manager site in the "Supplemental files (as requested by JoVE)" section. Please also cite the figure appropriately in the figure legend, i.e. "This figure has been modified from [citation]."   
**Our response:** Our figures are all original.

**Reviewers' comments:**  
  
**Reviewer #1:**   
*Manuscript Summary:*   
In this manuscript, you study surface property of SNWFET during preparation for bio-sensing devices. Your study indicate clear results and efficacy of your technique for SNWFEET.  
I wonder that your proposed procedure is for suitable only for SNWFET ore not. If your preparation technique special for SNWFET, you have to show differences from preparation of conventional FET. If your preparation technique is conventionally available for silicon related FET, you have to show the difference of previous immobilization technique.   
I am not able to understand the originality of your manuscripts in this present from.  
**Our response:** The immobilization of probe and the following measurement with FET device generally include similar principle but with specific considerations for each specific application.

**Reviewer #2:**   
*Minor Concerns:*  
1. What about the uniformity and the yield of the pSNW?  
**Our response:** The uniformity and the yield of the pSNWFET are strongly dependent on the facilities used for the fabrication of the device. With commercial fab, the devices are uniformed in the same wafer and the yield is near 100%. We are able to reach 80% yield when the research fab facilities were used.

2. Could you give some discussions on the point of fabrication of pSNWFETs is "low-cost"

**Our response:** The processes described for the fabrication of pSNWFET require only standard and low-end semiconductor fab facilities and thus it is a low-cost fabrication procedure.

3. In Figure 2d, why is it that the conductance change of unmodified device is a nonmonotonic change from pH3 to pH9?  
**Our response:** The conductance can be affected by both the ionic strength of the solution and the surface charge controlled through different pH solution as described in reference 1. The interactive effects cause the non-monotonic change shown in Figure 2d when both effects contribute to the change of conductance.