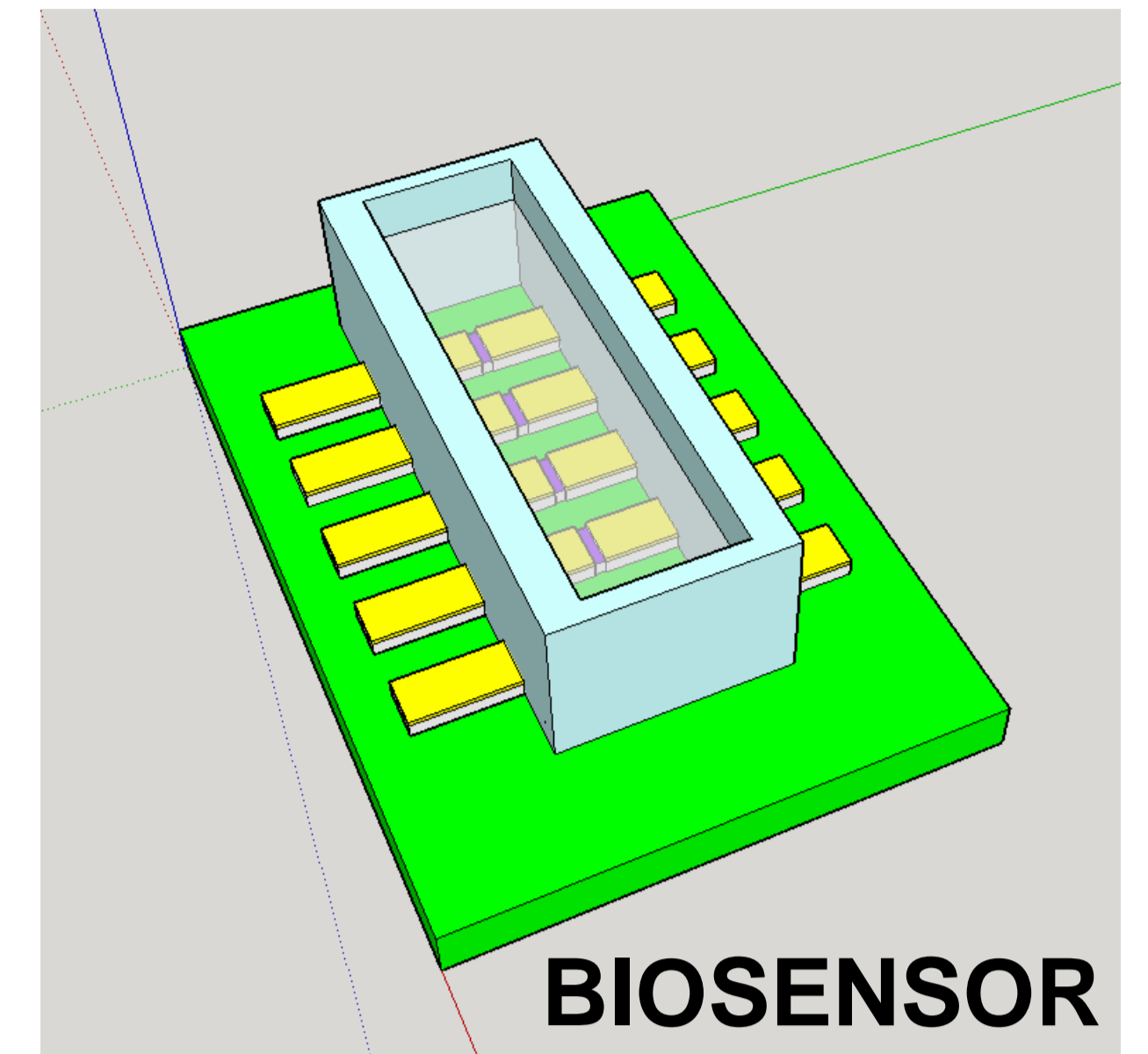
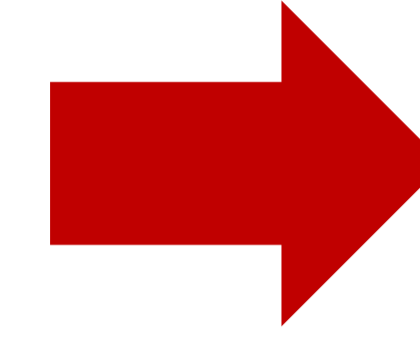
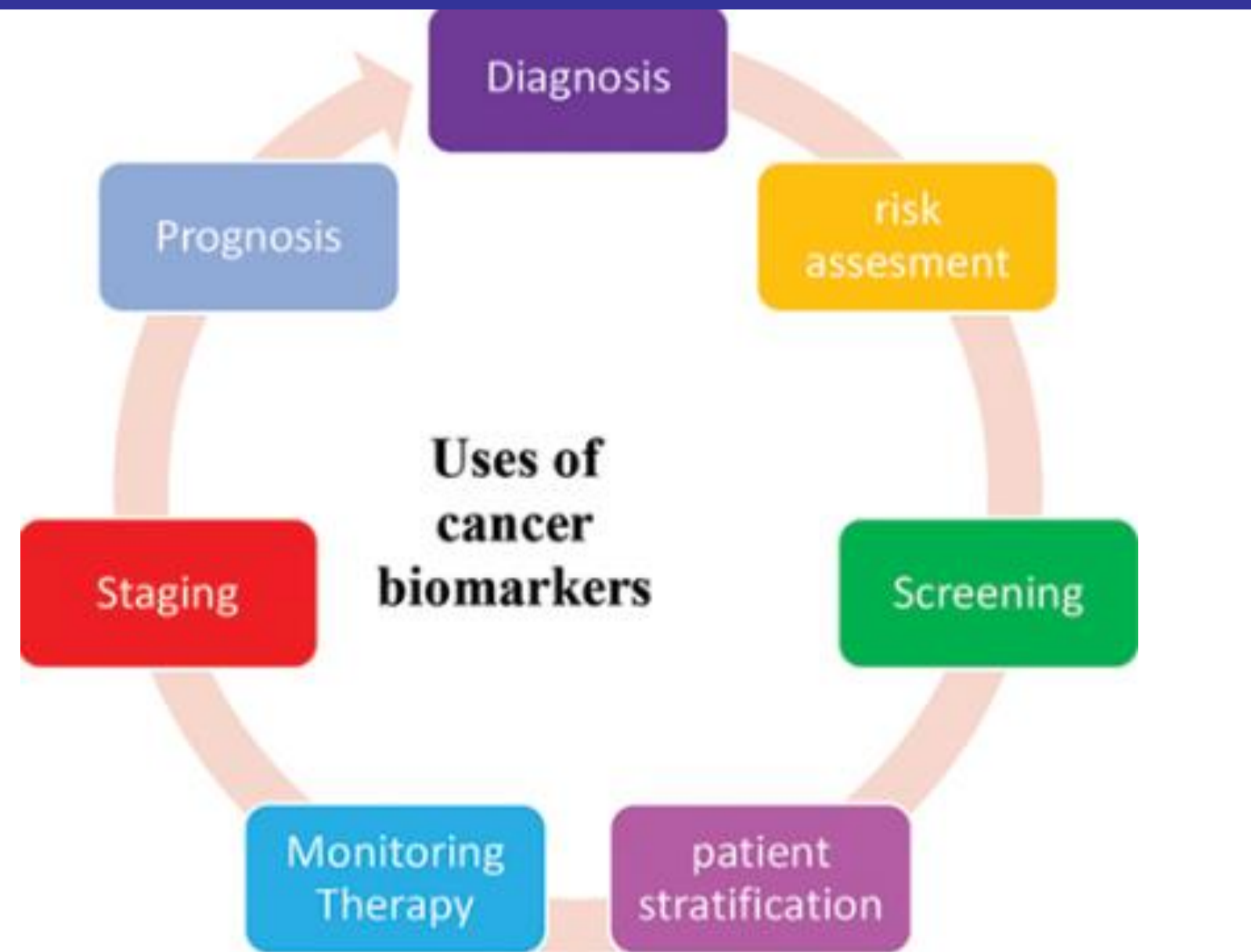
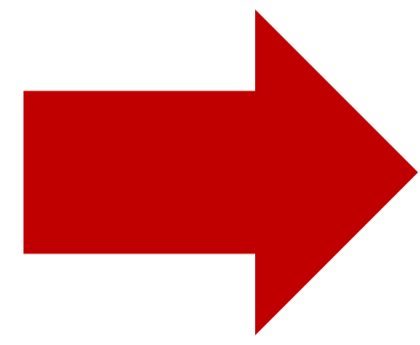
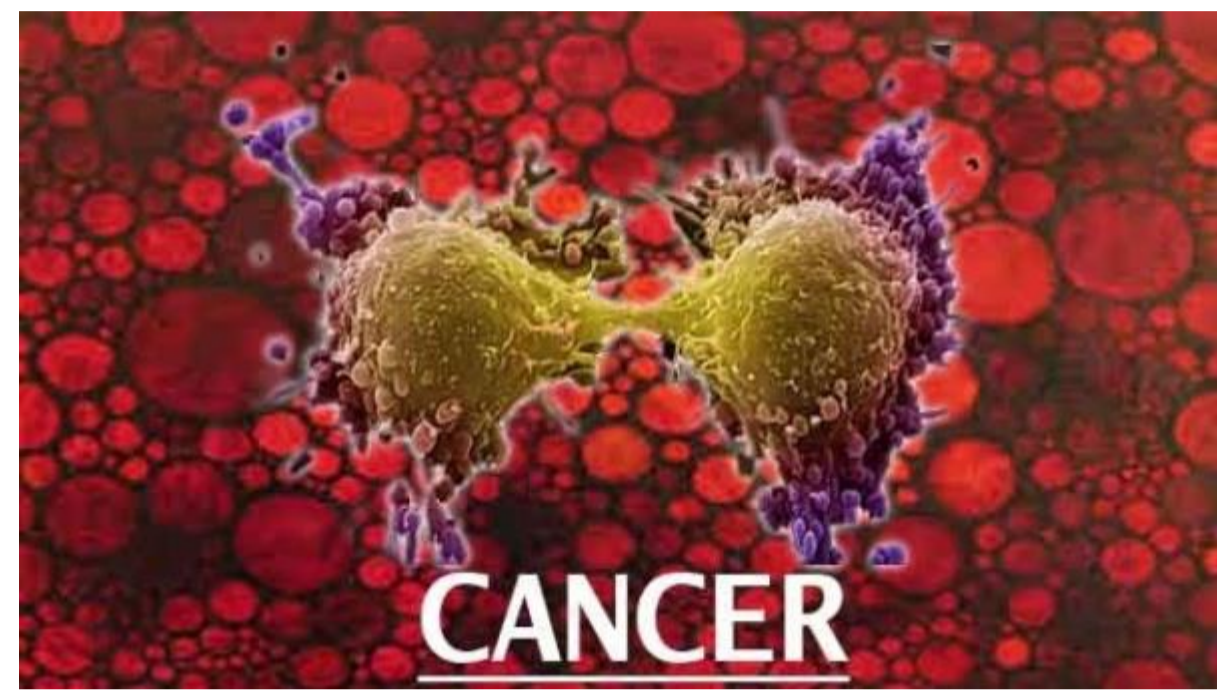


## Research Target



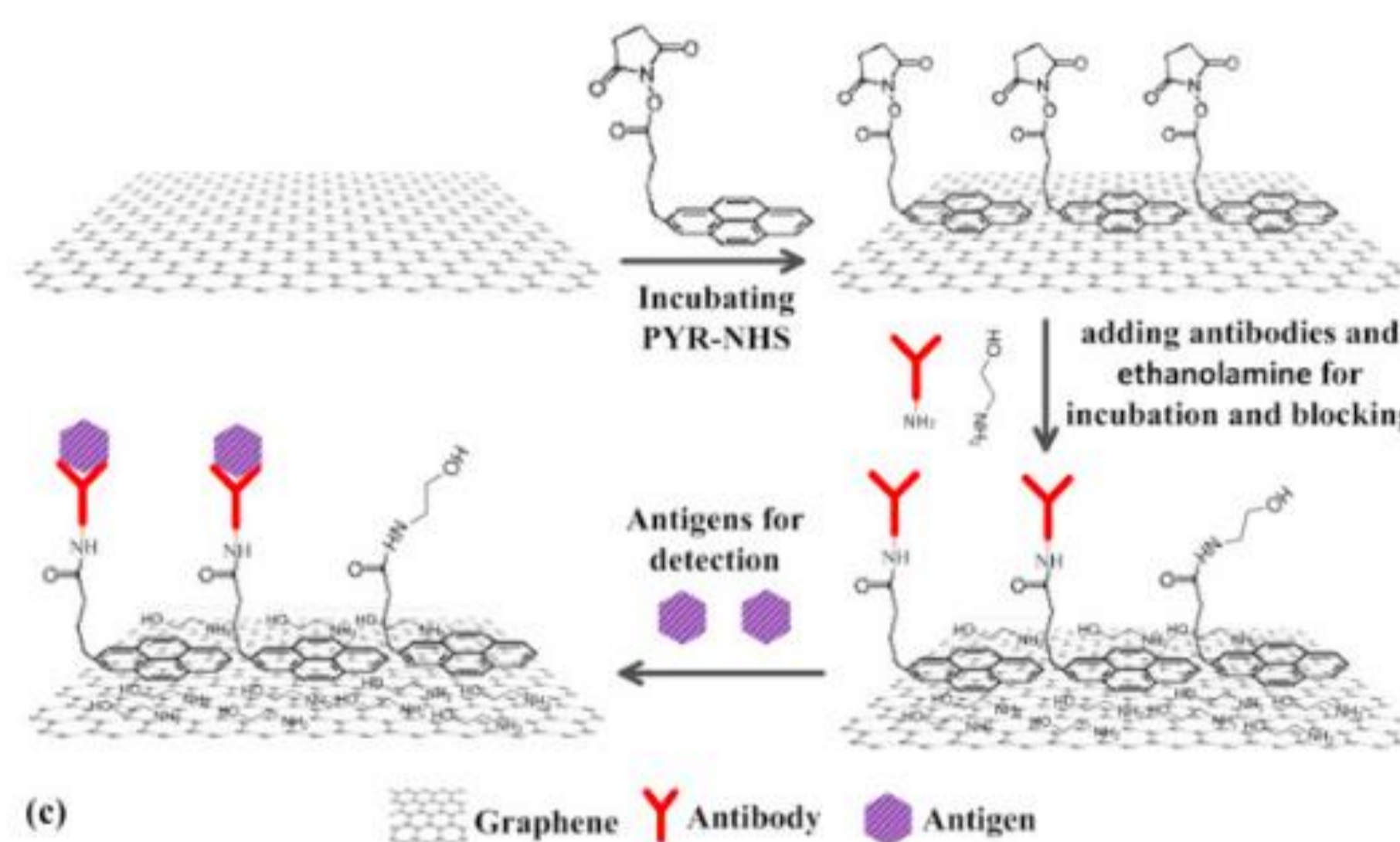
Development of biosensor which helps early diagnosis of cancer by quantifying cancer biomarker.

## Development of Manufacturing Process

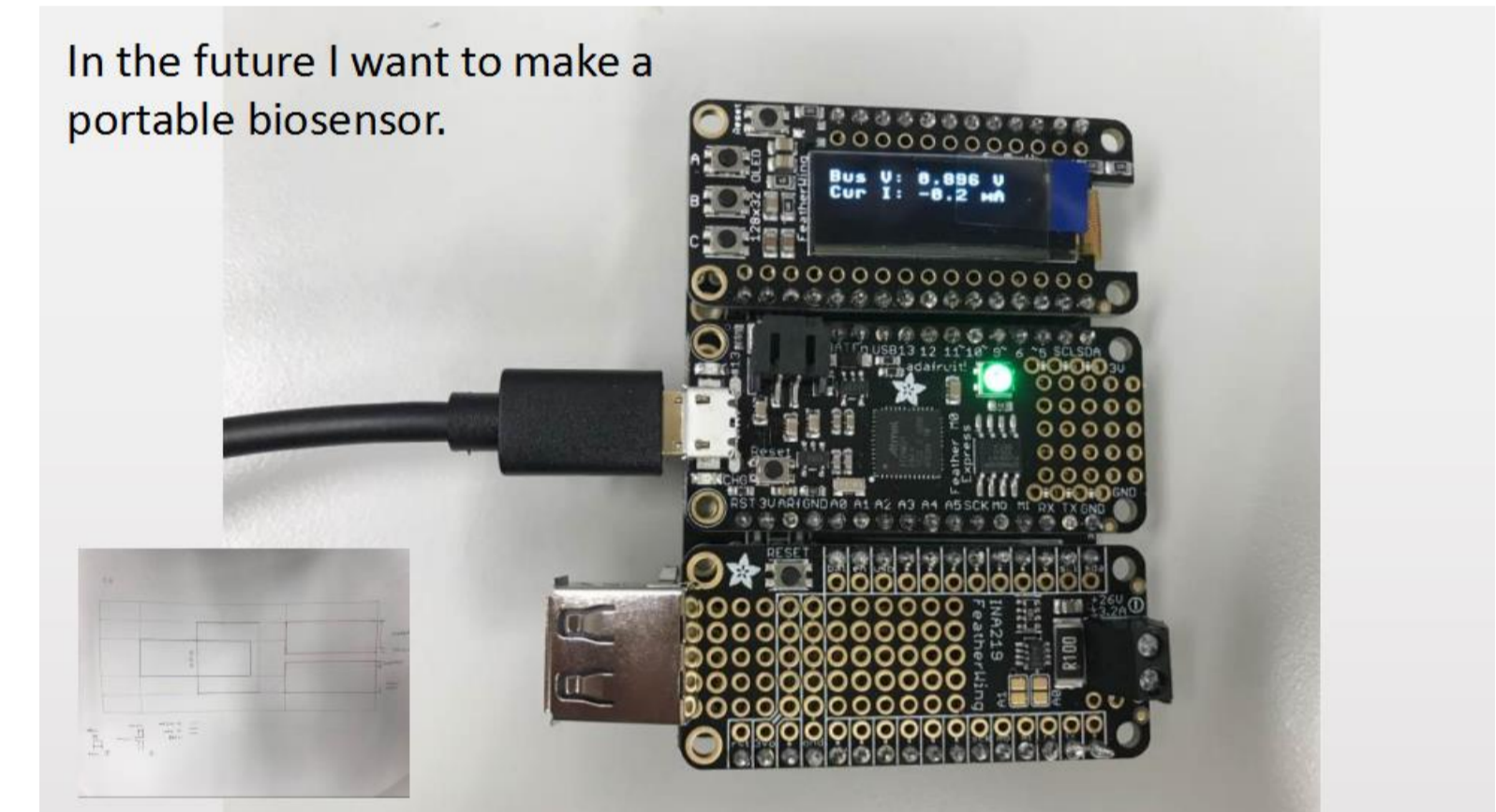
1. Synthetic Graphene
2. Electrode Processing
3. Chemical Modification
4. Biological Modification
5. Portable Device Development and Testing



1. SiC GRAPHENE CHIP 2. ELETRODE DIAGRAM



3. CHEMICAL MODIFICATION, 4. BIOCHEMICAL MODIFICATION

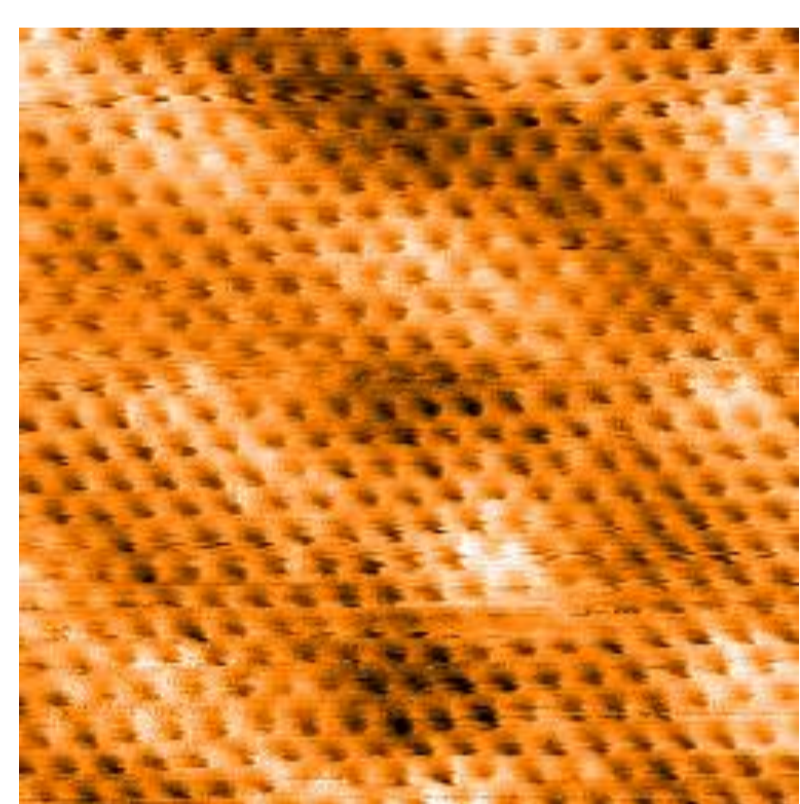


In the future I want to make a portable biosensor.

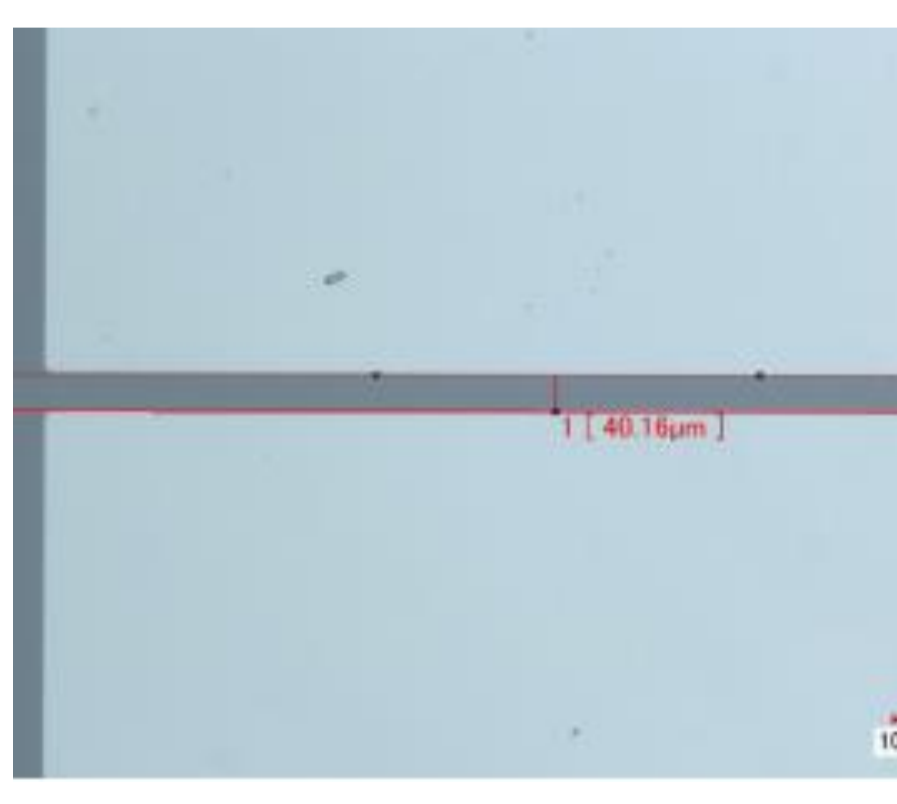
5. TESTING

## Experimental Results

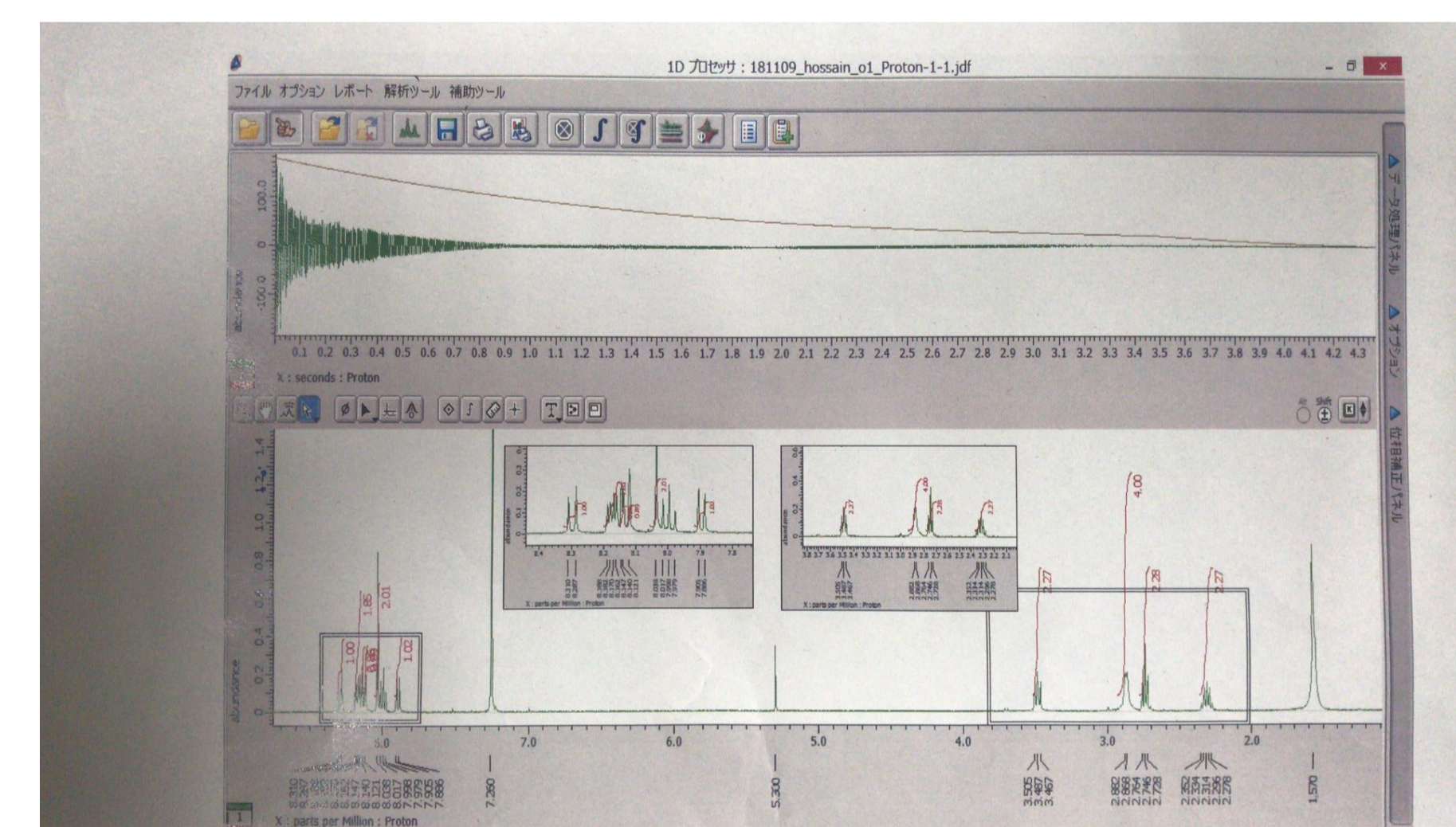
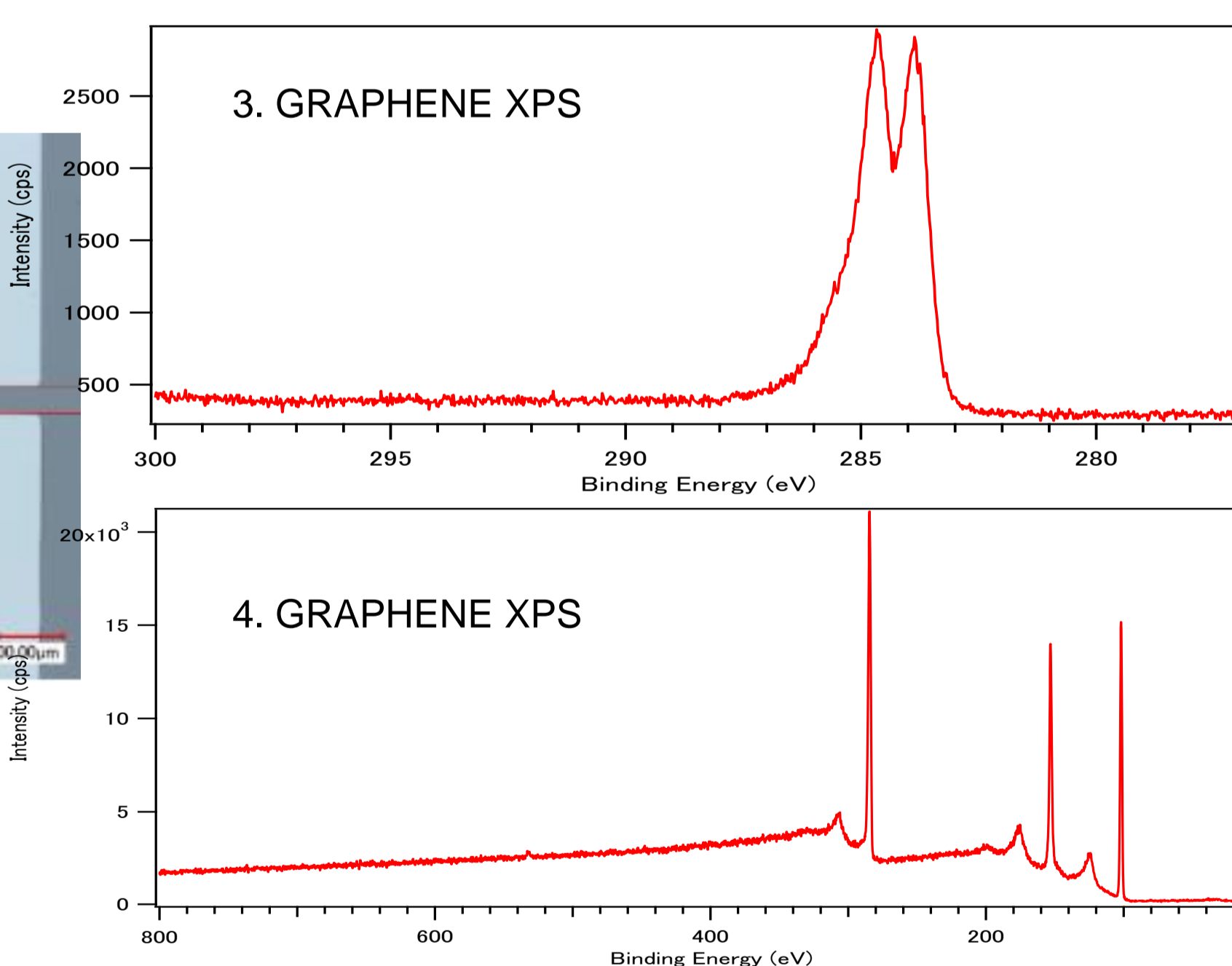
1. SiC Graphene STM
2. Electrode Gap
3. Graphene XPS
4. Linker NMR



1. SiC GRAPHENE STM



2. ELECTRODE GAP



5. LINKER NMR

## Conclusion

- Development of graphene biosensor for cancer diagnosis
  - Real-time performance
  - Direct conversion of biological signals into electrical signals
  - Signal transmission reduction
- Development of portable device
  - Biosensors detect biomolecules at anytime and anywhere just like a mobile phone.