Biomolecular Detection
Using Pyrene-Functionalized Graphene

Shiyu Wang, Md. Zakir Hossain, Takaaki Suzuki, Kazuo Shinozuka
Ryo Ichige, Anna Kuwana, Haruo Kobayashi
Faculty of Science and Engineering, Gunma University, JAPAN

We have developed a graphene biosensor and performed its experiments.
- Cancer diagnosis by detection of biomolecule amount in patient’s blood
- Real-time performance
- Direct conversion from biological to electrical signals

1. G-CHIP manufacture
2. Electrodes preparation
3. Chemical modification
4. Biological modification
5. (Right) Electrical measurement
(Left) Portable equipment