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## Controlling Work Function of Graphene by Chemical Doping

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Graphene, a single layer of graphite, has raised extensive interest in a wide scientific community for its extraordinary thermal, mechanical, electrical and other properties [1,2]. However, because of zero-band gap of graphene, it is difficult to apply for electronic applications. To overcome this problem, chemical doping is one of way to opening graphene bandgap. According to experimental results, by changing doping concentration and doping time, it is possible to control work function of graphene. We can obtain results through raman spectroscopy, UPS, Sheet resistance. Moreover, electronic properties of doped graphene were studied by making field effect transistors. We were able to control the doping concentration, dirac point of graphene and work function of graphene by forming n-type, p-type doping materials. In this research, the chemicals of diazonium salts, viologen, etc. were used for extrinsic doping.

### References

- [1] Geim, A. K. Science 2009, 324 (5934), 1530-1534.
- [2] Geim, A. K.; Novoselov, K. S. Nat. Mater. 2007, 6 (3), 183-191.

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