

CLAIMS

1. A method for cleaning a graphene surface, comprising contacting the graphene surface with a hydrogen plasma or a helium plasma or a neon plasma for a time sufficient to remove surface impurities without altering the chemical or physical makeup of the graphene surface,
5 in which the plasma is at an energy up to 21 eV.
2. A method according to Claim 1, in which the plasma is at an energy in the range 1 to 14 eV.
3. A method according to Claim 1 or 2, in which the plasma is a hydrogen plasma.
4. A method according to Claim 1 or 2, in which the plasma is an inert plasma.
- 10 5. A method according to Claim 4, in which the plasma is neon plasma.
6. A method according to Claim 5, in which the plasma is at an energy in the range 5 to 10 eV.
7. A method according to Claim 4, in which the plasma is helium plasma.
8. A method according to any preceding claim, in which the graphene surface is contacted
15 with the plasma for 1 to 30 seconds.
9. A method according to Claim 8, in which the graphene surface is contacted with the plasma for 1 to 10 seconds.
10. A method according to any preceding claim, in which the graphene is partially hydrogenated graphene.
- 20 11. Cleaned graphene obtained by a method according to any preceding claim.