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.

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.

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 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.

11. Cleaned graphene obtained by a method according to any preceding claim.

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, 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.

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 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.

11. Cleaned graphene obtained by a method according to any preceding claim.