CLAIMS

1. A method for making a partially hydrogenated graphene, in which the graphene is 1% to 50% hydrogenated graphene, the method comprising applying a hydrogen ion or hydrogen atom to the surface of graphene, characterised in that the hydrogen ion or hydrogen atom is applied at an energy in the range 1 to 21 eV, and in which the hydrogen ion or hydrogen atom is applied in the form of hydrogen plasma and the graphene is contacted with the hydrogen plasma for 10 to 40 seconds.

2. A method according to Claim 1, in which the energy is in the range 1 to 14 eV.

3. A method according to Claim 1 or 2, in which the application of hydrogen is ceased before hydrogen saturation of the graphene.

4. A method according to any preceding claim, in which the graphene is contacted with the hydrogen plasma for 18 to 22 seconds.

5. A method according to Claim 4, in which the graphene is contacted with the hydrogen plasma for 20 seconds.

6. A method according to any preceding claim, in which the graphene is graphene mounted on an electron microscopy support.

7. Partially hydrogenated graphene obtained by a method according to any preceding claim, in which the level of hydrogenation is 1% to 50%.