CLAIMS

What is claimed is:

1. A method of making nano-carbon foam, comprising:

   hot pressing hollow carbon nanoparticles:

   i) at a pressure between about 10 MPa and about 120 MPa;

   ii) at a temperature between about 500°C and about 2100°C; and

   iii) for a duration between about 5 minutes and about 60 minutes,

   to form a nano-carbon foam.

2. The method of claim 1, wherein the pressure is about 40 MPa.

3. The method of claim 1, further comprising the step of activating the nano-carbon foam with CO_2.

4. The method of claim 1, where the nano-carbon foam has a volumetric surface area between about 125 m^2 cc^{-1} and 578 m^2 cc^{-1}.

5. The method of claim 1, wherein the nano-carbon foam has a total pore volume between about 0.23 cc g^{-1} and 1.35 cc g^{-1}.

6. The method of claim 1, wherein the nano-carbon foam has a micropore volume between about 0.002 cc g^{-1} and 0.19 cc g^{-1}.

7. The method of claim 1, wherein the nano-carbon foam has a mesopore volume between about 0.23 cc g^{-1} and 1.22 cc g^{-1}.

8. The method of claim 1, wherein the nano-carbon foam has a density between about 0.361 g cc^{-1} and 0.95 g cc^{-1}.

9. The method of claim 1, wherein the hollow carbon nanoparticles have a void fraction of at least 80%.

10. The method of claim 1, wherein the hollow carbon nanoparticles have a surface area of at least 1400 m^2/g.