11. A method according to any one of claims 1 to 10, wherein the metal cations are iron cations.

12. A method according to any one of claims 1 to 10, wherein the metal cations are tin cations.

13. A method according to any one of claims 1 to 10, wherein the metal cations are lithium cations.

14. A method according to any one of the preceding claims, wherein the organic cation or metal cation has a counteranion wherein the counteranions isare selected from chloride, tetrafluoroborate, perchlorate and hexafluorophosphate.

15. A method according to any one of the preceding claims, which is carried out a temperature from 20°C to 100°C.

16. A method according to any one of claims 1 to 15, wherein the graphene or graphite nanoplatelet structures having a thickness of less than 100 nm are separated from the electrolyte by at least one technique selected from:
(a) filtering;
(b) using centrifugal forces to precipitate the graphene or graphite nanoplatelet structures; and
(c) collecting the graphene or graphite nanoplatelet structures at the interface of two immiscible solvents.

17. A method according to any one of claims 1 to 16, wherein the electrochemically exfoliated graphene or graphite nanoplatelet structures are further treated using ultrasonic energy.

18. A method according to any one of claims 1 to 17, wherein the graphite at the negative electrode is functionalised electrochemically prior to its exfoliation by oxidation in nitric acid or fluorination using hydrofluoric acid.