WHAT IS CLAIMED IS:

1. An organic electronic device comprising:

a plurality of electrically conductive nanowires on a substrate, and

at least one composition disposed on the nanowires comprising a water soluble or water dispersible polythiophene comprising (i) at least one optionally substituted alkyl or optionally substituted alkoxy, and (ii) at least one sulfonate substituent comprising sulfonate sulfur bonding directly to the polythiophene backbone.

2. The device according to claim 1, wherein the device is an organic photovoltaic device.

3. The device according to claim 1, wherein the device is an organic light emitting diode device.

4. The device according to claim 2, wherein the organic photovoltaic device has a power conversion efficiency (η) greater than about 2%.

5. The device according to any one of the claims 1-3, wherein the polythiophene comprises a regular head-to-tail coupled poly(3-substituted thiophene) having a degree of regioregularity of at least about 90% apart from sulfonation.

6. The device according to any one of the claims 1-3, wherein the polythiophene comprises a water soluble polythiophene.

7. The device according to any one of the claims 1-3, wherein the polythiophene comprises a doped polythiophene.

8. The device according to any one of the claims 1-3, wherein the polythiophene comprises at least one alkylene oxide.

9. The device according to any one of the claims 1-3, wherein the polythiophene comprises a polythiophene characterized by an acid number of about 250 or less mg *KOH/g* polymer.

10. An organic electronic device comprising at least one conductive layer, said at least one conductive layer comprising:

a plurality of electrically conductive nanowires, and

at least one composition comprising a water soluble or water dispersible regioregular

polythiophene comprising (i) at least one optionally substituted alkyl or optionally substituted alkoxy, and (ii) at least one sulfonate substituent comprising sulfonate sulfur bonding directly to the polythiophene backbone.

11. The device according to claim 10, wherein the device is an organic photovoltaic device.

12. The device according to claim 10, wherein the device is an organic light emitting diode device.

13. An organic electronic device comprising at least one conductive layer and at least one other layer disposed on the conductive layer,

said at least one conductive layer comprising a plurality of electrically conductive nanowires, and

said at least one other layer selected from the group: hole injection layer, hole transport layer, overcoat layer, or hole collection layer,

wherein said at least one other layer comprises at least one composition comprising a water soluble or water dispersible regioregular polythiophene comprising (i) at least one optionally substituted alkyl or optionally substituted alkoxy, and (ii) at least one sulfonate substituent comprising sulfonate sulphur bonding directly to the polythiophene backbone.

14. The device according to claim 13, wherein the device is an organic photovoltaic device.

15. The device according to claim 13, wherein the device is an organic light emitting diode device.

16. The device according to claim 14, wherein the organic photovoltaic device has a power conversion efficiency (η) greater than about 2%.

17. The device according to claim 1, wherein the at least one alkoxy in polythiophene is methoxyethoxyethoxy.

CLAIMS

1. An organic electronic device comprising:
a plurality of electrically conductive silver nanowires on a substrate, and
at least one composition disposed on the nanowires comprising a water soluble or water dispersible polythiophene comprising (i) at least one optionally substituted alkoxy, and (ii) at least one sulfonate substituent comprising sulfonate
sulfur bonding directly to the polythiophene backbone.

2. The device according to claim 1, wherein the device is an organic photovoltaic device.

3. The device according to claim 1, wherein the device is an organic light emitting diode device.

4. The device according to claim 2, wherein the organic photovoltaic device has a power conversion efficiency (η) greater than 1.5 %.

5. The device according to any one of the claims 1-3, wherein the polythiophene comprises a regular head-to-tail coupled poly(3-substituted thiophene) having a degree of regioregularity of at least 90% apart from sulfonation.

6. The device according to any one of the claims 1-3, wherein the polythiophene comprises a water soluble polythiophene.

7. The device according to any one of the claims 1-3, wherein the polythiophene comprises a doped polythiophene.

8. The device according to any one of the claims 1-3, wherein the polythiophene comprises at least one alkylene oxide.

9. An organic electronic device comprising at least one conductive layer, said at least one conductive layer comprising:
a plurality of electrically conductive silver nanowires, and
at least one composition comprising a water soluble or water dispersible regioregular polythiophene comprising (i) at least one optionally substituted
alkoxy, and (ii) at least one sulfonate substituent comprising sulfonate sulfur bonding directly to the polythiophene backbone.

10. The device according to claim 9, wherein the device is an organic photovoltaic device.

11. The device according to claim 9, wherein the device is an organic light emitting diode device.

12. An organic electronic device comprising at least one conductive layer and at least one other layer disposed on the conductive layer,
said at least one conductive layer comprising a plurality of electrically conductive silver nanowires, and
said at least one other layer selected from the group: hole injection layer, hole transport layer, overcoat layer, or hole collection layer,
wherein said at least one other layer comprises at least one composition comprising a water soluble or water dispersible regioregular polythiophene comprising (i) at least one optionally substituted alkoxy, and (ii) at least one sulfonate
substituent comprising sulfonate sulphur bonding directly to the polythiophene backbone.

13. The device according to claim 12, wherein the device is an organic photovoltaic device.

14. The device according to claim 12, wherein the device is an organic light emitting diode device.

15. The device according to claim 13, wherein the organic photovoltaic device has a power conversion efficiency (η) greater than 1.5 %.

16. The device according to claim 1, wherein the at least one alkoxy in polythiophene is methoxyethoxyethoxy.