29. The method as claimed in any one of claims 26 to 28, wherein a ratio of the flow rate of the gaseous argon to the flow rate of the gaseous oxygen is between about 0 to about 50.

30. The method as claimed in any one of claims 17 to 29, wherein at least one portion of the inorganic metal oxide substrate is patterned.

31. The method as claimed in any one of claims 17 to 30, wherein the inorganic metal oxide substrate is conductive or semiconductive.

32. The method as claimed in any one of claims 17 to 31, wherein the inorganic metal oxide substrate comprises a metal oxide or a metalloid oxide.

~~33. A photovoltaic device comprising:~~

~~a photoelectrode comprising inorganic nanorods on an inorganic metal oxide substrate; and~~

~~a mesoporous film configured to at least substantially contact the photoelectrode.~~

~~34. The photovoltaic device as claimed in claim 33, wherein the inorganic nanorods comprise a material selected from the group consisting of SnO_2, SnO, In_2O_3, ZnO, TiO_2, TiN, Fe_2O_3, CuO, Cu_2O, VO_2, V_2O_5, Nb_2O_5, WO_3, CdO, F-doped SnO_2, Sb-doped SnO_2, Sn-doped In_2O_3, F-doped In_2O_3, ZnO-doped In_2O_3 (ZIO), Al-doped ZnO (AZO), F-doped ZnO, Ga-doped ZnO (GZO), Nb-doped TiO_2, Nb-doped $SrTiO_3$, (La, Sr)CoO_3, (La, Sr)MnO_3, $SrRuO_3$, $CuAlO_2$, $CuInO_2$ and any combination thereof.~~

~~35. The photovoltaic device as claimed in claim 33 or 34, wherein the inorganic metal oxide substrate is selected from the group consisting of glass, quartz, crystal and ceramic.~~

~~36. The photovoltaic device as claimed in any one of claims 33 to 35, wherein the inorganic metal oxide substrate is coated with at least one layer of coating material, wherein the coating material is selected from the group consisting of SnO_2, SnO, In_2O_3,~~

~~ZnO, TiO_2, TiN, Fe_2O_3, CuO, Cu_2O, VO_2, V_2O_5, Nb_2O_5, WO_3, CdO, F-doped SnO_2, Sb-doped SnO_2, Sn-doped In_2O_3, F-doped In_2O_3, ZnO-doped In_2O_3 (ZIO), Al-doped ZnO (AZO), F-doped ZnO, Ga-doped ZnO (GZO), Nb-doped TiO_2, Nb-doped $SrTiO_3$, (La, Sr)CoO_3, (La, Sr)MnO_3, $SrRuO_3$, $CuAlO_2$, $CuInO_2$ and any combination thereof.~~

~~37. The photovoltaic device as claimed in any one of claims 33 to 36, wherein the mesoporous film comprises a material selected from the group consisting of TiO_2, ZnO, SnO_2, TiN, $SrTiO_3$ and Nb_2O_5.~~

~~38. The photovoltaic device as claimed in any one of claims 33 to 37, wherein the mesoporous film comprises nanostructures comprising a material selected from the group consisting of TiO_2, ZnO, SnO_2, $SrTiO_3$, Nb_2O_5 and any combination thereof.~~

~~39. The photovoltaic device as claimed in claim 38, wherein the nanostructures are selected from a group consisting of nanoparticles, nanorods, nanowires, nanotubes, nanosheets, nanospheres and any combination thereof.~~

~~40. The photovoltaic device as claimed in any one of claims 33 to 39, wherein at least one portion of the inorganic metal oxide substrate is patterned.~~

~~41. The photovoltaic device as claimed in any one of claims 33 to 40, wherein the inorganic metal oxide substrate is transparent.~~

~~42. The photovoltaic device as claimed in any one of claims 33 to 41, wherein the inorganic metal oxide substrate is conductive or semiconductive.~~

~~43. The photovoltaic device as claimed in any one of claims 33 to 42, wherein the inorganic nanorods are at least substantially perpendicular to the inorganic metal oxide substrate.~~

~~44. The photovoltaic device as claimed in any one of claims 33 to 43, wherein the inorganic nanorods are doped with a material selected from the group consisting of F, Sb, In, Zn and any combination thereof.~~

~~45. The photovoltaic device as claimed in any one of claims 33 to 44, wherein the inorganic nanorods further comprise a layer of coating on a surface of the inorganic nanorods to form core-sheath nanorods.~~

~~46. The photovoltaic device as claimed in claim 45, wherein the layer of coating comprises a material selected from the group consisting of titanium dioxide, zinc oxide, magnesium oxide, aluminium oxide, niobium oxide and strontium titanate.~~

~~47. The photovoltaic device as claimed in any one of claims 33 to 46, wherein the photoelectrode further comprises a nanoparticle, or a nanorod, or a nanowire, or a nanotube, or a nanoflower, or a nanobrush, or a nanocrystal, or a nanocrystalline film, or any combination thereof.~~

~~48. The photovoltaic device as claimed in any one of claims 33 to 47, wherein the photoelectrode further comprises a sensitizer.~~

~~49. The photovoltaic device as claimed in claim 48, wherein the sensitizer comprises a dye, or a quantum dot, or a nanocrystal, or a nanocrystalline film, or a photonic crystal, or any combination thereof.~~

~~50. The photovoltaic device as claimed in claim 49, wherein the dye is selected from a group consisting of N719, N749, Z907 and N3.~~

~~51. The photovoltaic device as claimed in claim 49, wherein the sensitizer selected from a group consisting of the quantum dot, the nanocrystal, the nanocrystalline film and the photonic crystal comprises a compound selected from the group consisting of ZnS, ZnSe, CdS, CdSe, CdTe, PbS, PbSe, InAs, InP, NiO, SnS, SnS_2, Cu_2O, Si, Se, In_2S3,~~

~~AgS_2, Sb_2S_3, CuS_2, $CuInS_2$, $CuIn(S,Se)_2$, $Cu(In,Ga)Se_2$, $Cu(In,Ga)(S,Se)_2$, Cu_2ZnSnS_4, $Cu_2ZnSnSe_4$ and $Cu_2CdSnSe_4$.~~

~~52. The photovoltaic device as claimed in any one of claims 33 to 51, further comprising an electrolyte.~~

~~53. The photovoltaic device as claimed in claim 52, wherein the electrolyte comprises a solid, or a semisolid, or a gel, or a liquid.~~

~~54. The photovoltaic device as claimed in claim 52 or 53, wherein the electrolyte comprises iodine, or iodide, or copper iodide, or copper thiocyanate or any combination thereof.~~

~~55. The photovoltaic device as claimed in any one of claims 33 to 54, further comprising a counter electrode.~~

~~56. The photovoltaic device as claimed in any one of claims 33 to 55, wherein the photovoltaic device is a solar cell.~~