Claims

1. A method for manufacturing at least one electrode of an analyte sensor, the method comprising the following steps:
   a) providing a stencil, wherein the stencil comprises a first stencil side, a second stencil side and at least one through hole reaching from the first stencil side to the second stencil side, wherein at least one of the first stencil side and the second stencil side has first wettability properties;
   b) providing a substrate, wherein the substrate comprises a first side and a second side;
   c) applying the stencil to the first side of the substrate;
   d) applying a low viscosity composition into the through hole of the stencil, wherein the low viscosity composition has second wettability properties opposing to the first wettability properties of the at least one of the first stencil side and the second stencil side;
   e) drying the low viscosity composition;
   f) obtaining the at least one electrode.

2. The method according to claim 1, wherein the first wettability properties are hydrophobic or hydrophilic, wherein the second wettability properties are hydrophobic or hydrophilic.

3. The method according to any one of claims 1 or 2, wherein the second wettability properties are hydrophilic, wherein both stencil sides have the same first wettability properties, wherein the first wettability properties are hydrophobic.

4. The method according to any one of claims 1 to 3, wherein a whole surface of the stencil has first wettability properties, wherein the first wettability properties are hydrophobic.

5. The method according to any one of claims 3 or 4, wherein the stencil is hydrophobized with silicon.

6. The method according to any one of claims 1 to 5, wherein the low viscosity composition comprises water and/or an osmium based polymer.

7. The method according to any one of claims 1 to 6, wherein the viscosity of the low viscosity composition is ≤ 200 mPas, preferably ≤ 100 mPas, more preferably ≤ 50 mPas.

8. The method according to any one of claims 1 to 7, wherein the first side of the substrate has third wettability properties opposing to the first wettability properties, wherein the third wettability properties are hydrophilic or hydrophobic.

9. The method according to any one of claims 1 to 8, wherein the stencil has a thickness of ≥ 50 µm, preferably of ≥ 100 µm, more preferably ≥ 500 µm.

10. The method according to any one of claims 1 to 9, wherein the stencil comprises a plurality of through holes, wherein the through holes have diameters of ≤ 4 mm, preferably ≤ 1 mm, more preferably ≤ 0.5 mm.

11. The method according to any one of claims 1 to 10, wherein first side of the substrate comprises at least one conductive material.

12. The method according to any one of claims 1 to 11, wherein the obtaining of the electrode comprises removing the stencil from the substrate.

13. A method for manufacturing at least one analyte sensor, the method comprising manufacturing at least one electrode according to the method of any one of claims 1 to 12, wherein the method further comprises obtaining the analyte sensor by cutting the substrate.

14. An analyte sensor for determining at least one analyte in a sample of bodily fluid, wherein the analyte sensor comprises at least one electrode manufactured by using the method according to any one of claims 1 to 12.

15. Use of the analyte sensor according to claim 14 for detecting at least one analyte in a sample.