Claims

1. A method of performing an analytical measurement based on a color formation reaction in an optical test strip by using a mobile device having a camera, the method comprising:
   a) providing an optical test strip having a test field without having a sample applied thereto;
   b) capturing at least one first image of at least part of the test field of the optical test strip without having a sample applied thereto by using the camera with at least one image acquisition setting of the camera;
   c) applying a sample of bodily fluid to the test field of the optical test strip;
   d) waiting for a predetermined minimum amount of time;
   e) capturing at least one second image of at least part of the test field of the optical test strip having the sample of bodily fluid applied thereto by using the camera with the one or more image acquisition settings of the camera, wherein the image acquisition settings of the camera are the same image acquisition settings of the camera as used in step b); and
   f) determining an analytical measurement result value by using the first and the second image of the optical test field of the optical test strip,

   wherein step b) further comprises locking the one or more image acquisition settings of the camera, wherein the one or more image acquisition settings of the camera remain locked at least until step e) has been carried out, wherein step f) comprises comparing the at least two images captured in steps b) and e) respectively, wherein at least one of a color difference and an intensity difference is detected, wherein step f) comprises determining a relative measurement value R_{rel} from one or both of a color or an intensity of the test field of the first image I_{TF_1} and a color and/or intensity of the test field of the second image I_{TF_2} by using the following function:

$$R_{rel} = \frac{I_{TF_2}}{I_{TF_1}},$$

   and/or wherein step f) comprises determining a twice relative measurement value R_{twice_rel} from a color and/or an intensity of the test field of the first image I_{TF_1}, a color and/or an intensity of the test field of the second image I_{TF_2}, a color and/or an intensity of a reference area on the optical test strip of the first image I_{WF_1} and a color and/or an intensity of the same reference area on the optical test strip of the second image I_{WF_2}, by using the following functions:

$$R_{twice_rel} = \frac{I_{TF_2} / I_{WF_2}}{I_{TF_1} / I_{WF_1}}.$$

2. The method according to claim 1, wherein step b) further comprises deriving at least one parameter pertaining to the one or more image acquisition settings.

3. The method according to claim 2, wherein the at least one parameter pertaining to the one or more image acquisition settings is stored in a data base.

4. The method according to claim 3, wherein the at least one parameter pertaining to the one or more image acquisition settings is selected from the group consisting of: a shutter speed, specifically an exposure time; a focus distance; a color adjustment, such as a color saturation; a pixel correction, specifically a noise reduction.

5. The method according to claim 4, wherein at least one of the at least one parameter pertaining to the one or more image acquisition settings is configured to be corrected or set by at least one algorithm.

6. The method according to any one of the preceding claims, wherein step c) comprises one or both of:
   - prompting a user to apply the sample of bodily fluid to the test field of the optical test strip; or
   - prompting the user to confirm application of the sample of bodily fluid to the test field of the optical test strip.

7. The method according to any one of the preceding claims, wherein the method further comprises
   g) evaluating at least one ambient lighting condition,
   wherein step g) is performed at least once at one or more of the following points in time:
   - between step a) and step b),
   - between step b) and step c),
   - between steps e) and f), or
   - after step f).

8. The method according to claim 7, wherein step g) further comprises adapting the at least one ambient lighting condition by turning on or off at least one illumination source of the mobile device.

9. A computer program including computer-executable instructions for performing the method according to any one of the preceding claims when the computer program is executed on a computer or computer network.

10. A mobile device for performing an analytical measurement, the mobile device having at least one camera, the mobile device being configured for performing at least steps b), d), e) and f) of the method of performing an analytical measurement according to any one of claims 1 to 8.

11. The mobile device according to claim 10, wherein the mobile device further comprises at least one illumination source configured for adapting at least one ambient lighting condition.

12. The mobile device according to any one of claim 10 or 11, wherein the mobile device comprises at least one processor being programmed for controlling at least one of steps b), d), e), and f), and optionally c) and/or g).

13. A kit for performing an analytical measurement, the kit comprising:
- at least one mobile device according to any one of claims 10 to 12; and
- at least one optical test strip having at least one test field.