Claims

1. A method of evaluating the quality of a color reference card, wherein the quality of the color reference card refers to a state of the color reference card indicating whether or not the color reference card is usable for a method for determining the concentration of an analyte in a bodily fluid and/or to the degree of suitability or the degree of reliability of the color reference card for being used for the method for determining the concentration of the analyte in the bodily fluid, the color reference card comprising a plurality of color reference fields having known reference color values, the method comprising the following steps:
   i. capturing at least one image of at least a part of the color reference card by using at least one camera of at least one mobile device;
   ii. determining measured reference color values for one or more of the color reference fields from the image;
   iii. determining a relationship between one or more of the measured reference color values and the corresponding known reference color values; and
   iv. deriving at least one item of quality information on the quality of the color reference card by using the relationship of step iii.

2. The method according to the preceding claim, wherein the determining of the relationship in step iii. comprises fitting the measured reference color values to the corresponding known reference color values, wherein the deriving of the quality information in step iv. comprises determining at least one fit residuum quantifying the quality of the fitting.

3. The method according to any one of the preceding claims, wherein the relationship between the measured reference color values and the known reference color values comprises a color transformation matrix.

4. The method according to any one of the preceding claims, wherein the at least one item of quality information in step iv. at least partially is derived by using the relationship determined in step iii. and by transforming measured color coordinates of at least one first color reference field into expected color coordinates of at least one second color reference field by using the relationship and by further comparing the expected color coordinates of the second color reference field with measured color coordinates of the second color reference field.

5. The method according to any one of the preceding claims, wherein the at least one item of quality information is determined by selectively leaving out measured reference color values of at least one selected color reference field in step iii., whereas color coordinates of other color reference fields are taken into account in step iii..

6. The method according to the preceding claim, wherein a plurality of items of quality information is determined by selectively leaving out measured reference color values of a plurality of selected color reference fields, respectively, wherein the items of quality information are compared in order to identify color reference fields having a low quality.

7. A method for determining the concentration of an analyte in a bodily fluid, the method comprising using a mobile device having at least one camera, the method further comprising using at least one optical test strip and at least one color reference card comprising a plurality of color reference fields having known reference color values, wherein the method comprises:
   a. evaluating the quality of the reference card using the method according to any of the preceding claims;
   b. capturing at least one image of at least one reagent test region of the optical test strip having a sample of the bodily fluid applied thereto by using the camera; and
   c. determining the analyte concentration based on a color formation reaction of the reagent test region, taking into account the result of step a.

8. A mobile device having at least one camera, the mobile device further having at least one processor, wherein the mobile device is configured for performing the method of evaluating the quality of a color reference card according to any one of the preceding claims referring to a method of evaluating the quality of a color reference card.

9. The mobile device according to the preceding claim, wherein the mobile device is further configured for determining the concentration of an analyte in a bodily fluid by using at least one optical test strip, by performing steps b. and c. of the method according to claim 7.

10. A kit, comprising at least one mobile device according to any one of the preceding claims referring to a mobile device, further comprising at least one color reference card, the color reference card comprising a plurality of color reference fields having known reference color values.

11. The kit according to the preceding claim, the kit further comprising at least one optical test strip having at least one reagent test region.

12. A computer program comprising instructions which, when the program is executed by the mobile device according to any one of the preceding claims referring to a mobile device, cause the processor of the mobile device to perform the method of evaluating the quality of a color reference card according to any one of the preceding claims referring to a method of evaluating the quality of a color reference card.

13. The computer program according to the preceding claim, further comprising instructions which, when the program is executed by the mobile device, cause the processor of the mobile device to perform steps b. and c. of the method according to claim 7.

14. A computer-readable storage medium comprising instructions which, when the program is executed by the mobile device according to any one of the preceding claims referring to a mobile device, cause the processor of the mobile device to perform the method of evaluating the quality of a color reference card according to any one of the preceding claims referring to a method of evaluating the quality of a color reference card.

15. The computer-readable storage medium according to the preceding claim, further comprising instructions which, when the program is executed by the mobile device, cause the processor of the mobile device to perform steps b. and c. of the method according to claim 7.