

Claims

[Claim 1] A method of monitoring the similarity of the penetration depth of the light of a first photoplethysmocharty (PPG) sensor and the light of a second photoplethysmocharty (PPG) sensor for monitoring an analyte in blood, comprising the step(s) of:

- obtaining an analyte-pulse using a first photoplethysmocharty (PPG) sensor in a first wavelength;
- obtaining a blood-pulse using a second photoplethysmocharty (PPG) sensor in a second wavelength;
- the analyte having an absence of a significant absorbance in the second wavelength;
- monitoring similarity of a shape of the analyte-pulse and a shape of the blood pulse; and
- adjusting the intensity of the light emitted by the first photoplethysmocharty (PPG) sensor and/or the intensity of the light emitted by the second photoplethysmocharty (PPG) sensor until the shape of the analyte-pulse and the shape of the blood-pulse are similar.

[Claim 2] A method of monitoring the similarity of the penetration depth of the light of a first photoplethysmocharty (PPG) sensor and the light of a second photoplethysmocharty (PPG) sensor for monitoring an analyte in blood as claimed in claim 1, further comprising the step of

- comparing the size of the analyte-pulse with the size of the blood-pulse to monitor the analyte.

[Claim 3] A method of monitoring the similarity of the penetration depth of the light of a first photoplethysmocharty (PPG) sensor and the light of a second photoplethysmocharty (PPG) sensor for monitoring an analyte in blood as claimed in claim 1, wherein

the analyte in the blood in an artery of a life subject is glycated haemoglobin;

the first wavelength being selected from

- 1) 275nm
- 2) 340nm to 350nm
- 3) 415nm to 420nm
- 4) 540nm; or
- 5) 580nm; and

the second wavelength being in the red or infrared range.

[Claim 4] A method of monitoring the similarity of the penetration depth of the light of a first photoplethysmocharty (PPG) sensor and the light of a second photoplethysmocharty (PPG) sensor for monitoring an analyte in blood as claimed in claim 1, comprising the further step(s) of:

providing a third light source, the third light source emitting light in a third wavelength into the tissue of the subject to obtain a second-analyte-pulse;

adjusting the intensity of the light emitted by the light source, the intensity of the light emitted by the second light source and/or the intensity of the light emitted by the third light source until the shape of

the analyte-pulse, the shape of the second-analyte-pulse and the shape of the blood-pulse are similar.

[Claim 5] A method of monitoring the similarity of the penetration depth of the light of a first photoplethysmocharty (PPG) sensor and the light of a second photoplethysmocharty (PPG) sensor for monitoring an analyte in blood as claimed in claim 4, further comprising the step of:

subtracting the amplitude of the second-analyte-pulse from the amplitude of the analyte-pulse to provide a reduced analyte-pulse;

comparing the size of the reduced analyte-pulse with the size of the blood-pulse to monitor the analyte.