Abstract

Device for the optical measurement of substance concentrations or biomarkers in a sample, with a contact surface that can be brought into contact with the sample during a measurement process, and optoelectronic components in the form of a plurality of optical emitters for emitting photons, and a plurality of detectors for receiving at least some of the photons emitted by the emitters and passing through at least a partial volume of the sample, and wherein the emitters and the detectors are located on a common plane, and at least nine emitters are provided, and at least three detectors are provided, and the emitters and detectors are mounted at a distance of less than 15 mm from the contact surface, wherein there are at least three wavelength intervals which do not overlap and which have an interval length between 2 nm and 20 nm, and in each of the wavelength intervals at least the peak wavelength of three of the emitters is located, and in each wavelength interval at least two of the emitters, both of which are located within the wavelength interval, have a difference in peak wavelength of at least 0.5 nm.

Fig. 1