- a single light source emitting a monochromatic excitation light beam having a wavelength comprised between 350 and 650 nanometers;

- a beam splitter oriented at 45° with respect to the direction of emission of the light source to reflect the excitation light beam;

- a focus and collection lens;

- a casing;

- a positioning device, secured to the casing, allowing to orient the light beam coming from the light source along a direction substantially normal to the outer surface of the container, the positioning device comprising a wedge forming a projection from one of the faces of the casing, said wedge having a contact surface of complementary shape to an outer surface of the container and defining a spacing between the focus lens and the container determined so that the reflected beam is focused inside the container, within the beverage to be authenticated contained in the container, as close as possible to an inner surface of the container, at a distance from the inner surface of the container less than 1 millimeter and preferably less than 500 micrometers, the positioning device including a through opening for the passage of the light beam coming from the light source;

- a filtering device for filtering the fluorescence radiation captured by the focus lens and transmitted by the beam splitter, so as to eliminate the wavelengths which are shorter than or equal to the wavelength of the light beam emitted by the light source;

- a spectrometer module for producing a signal corresponding to the measured spectrum of the fluorescence radiation of the beverage;

- an analysis module for comparing the measured spectrum with a reference spectrum.

By using the fluorescence phenomenon, the device in accordance with embodiments of the invention may allow reducing the power of the excitation light source with respect to known devices, particularly those using the Raman effect (the intensity of the light emitted in the fluorescence process is indeed about a million times more intense than the Raman scattering). The device in accordance with the invention includes a single light source, which may contribute to the simplicity and portability of the system. In addition, by being limited to wavelengths greater than 350 nanometers, the influence of water and ethanol molecules (very much predominating in concentration in an alcoholic beverage such as a wine or a spirit) may be limited. Indeed, water and ethanol molecules do not absorb the light radiation for wavelengths which are greater than 200 nanometers. Furthermore, by providing an assembly called "reflection" assembly, the attenuation of the fluorescence radiation is

limited. Moreover, the 180° angle of incidence between the emitted ray and the reflected fluorescence ray may allow minimizing the undesirable effects due to the wall of the container, since the traversed thickness will be minimal. Finally, by providing a positioning device, it may be ensured that the focus of the emitted beam will be at the desired location, without any

Claims

1. A portable device for controlling an alcoholic beverage in an at least partially transparent container, including

- a single light source emitting a monochromatic excitation light beam having a wavelength comprised between 350 and 650 nanometers;
- a beam splitter oriented at 45° with respect to the direction of emission of the light source to reflect the excitation light beam;
- a focus and collection lens;
- a casing;
- a positioning device, secured to the casing, allowing to orient the light beam coming from the light source along a direction substantially normal to the outer surface of the container, the positioning device comprising a wedge forming a projection from one of the faces of the casing, said wedge having a contact surface of complementary shape to an outer surface of the container and defining a spacing between the focus lens and the container determined so that the reflected beam is focused inside the container, within the beverage to be authenticated contained in the container, as close as possible to an inner surface of the container, at a distance from the inner surface of the container less than 1 millimeter and preferably less than 500 micrometers, the positioning device including a through opening for the passage of the light beam coming from the light source;
- a filtering device for filtering the fluorescence radiation captured by the focus lens and transmitted by the beam splitter, so as to eliminate the wavelengths which are shorter than or equal to the wavelength of the light beam emitted by the light source;
- a spectrometer module for producing a signal corresponding to the measured spectrum of the fluorescence radiation of the beverage;
- an analysis module for comparing the measured spectrum with a reference spectrum.

2. The device according to claim 1, wherein the beam splitter is a dichroic filter, in particular a high-pass dichroic filter.

3. The device according to claim 1 or 2, wherein the filtering device includes a Notch-type band-stop filter and/or a high-pass filter.

4. The device according to any of the preceding claims, wherein the spectrometer module is linked to the filtering device via an optical fiber.

5. The device according to any of the preceding claims, wherein the positioning device includes a contact surface configured to be complementary to the outer surface of the container.

6. The device according to any of the preceding claims, wherein the device comprises a display device, allowing in particular to display the result of the comparison between the measured spectrum and the reference spectrum.

7. The device according to any of the preceding claims, wherein the casing includes all the components of the device.

8. The device according to any of the preceding claims, wherein the positioning device is connected to the casing via a flexible connection, the focus lens being integrated to the positioning device, the flexible connection including an optical fiber for transmitting the light beams passing through the focus lens.

9. The device according to any of claims 6 to 8, wherein the analysis module and the display device are included in an appended portable device, such as a tablet computer or mobile phone.

10. The device according to any of the preceding claims, wherein the device comprises connection means to a remote database.

11. A system for controlling an alcoholic beverage, wherein the system comprises a device according to claim 10 and a database stored in a remote server of the device.

12. The system according to claim 11, wherein the database includes one or more reference spectra that can be downloaded by the device.