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(54) Title: APPARATUS AND METHOD FOR THE NON-INVASIVE DETECTION OF TETRAHYDROCANNABINOL USE AND IMPAIRMENT

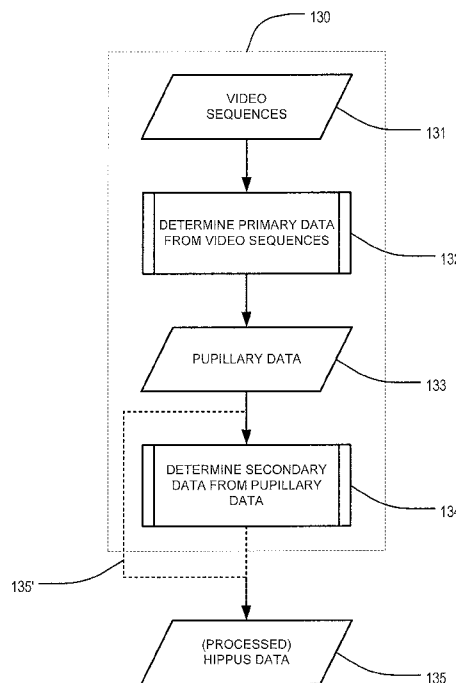


FIG. 1

(57) Abstract: The present disclosure is related to a method and apparatus for determining THC usage of a person. The present disclosure describes acquiring a video sequence, of an eye of a patient, the video sequence being a plurality of video frames, determining a frequency spectrum from a pupillary data of the video sequence, and determining, based on the frequency spectrum, the physiological characteristic or drug of use of the patient. In an embodiment, at least one frequency can be probed based on which physiological characteristic is being explored. For example, the physiological characteristic can be $\Delta\#$ -tetrahydrocannabinol, and the at least one frequency probed can be selected to be specific to $\Delta\#$ -tetrahydrocannabinol.



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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 See Search History document

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
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Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 See Search History document

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2014/0268047 A1 (Drexel University) 18 September 2014, abstract, para. [0003], [0011], [0018]-[0026], [0034]-[00386], [0040]-[0044], [0052]-[0056], [0068]-[0070]	1-20
A	US 2015/0116665 A1 (Children's National Medical Center) 30 April 2015, abstract, Fig. 3, 4, para. [0020], [0022], [0023], [0026], [0028], [0031], [0038], [0039], [0042], [0045], [0054], [0058]-[0062], [0058]-[0062]	1-20
A	US 2017/0100061 A1 (Children's National Medical Center) 13 April 2017, abstract, Fig. 13A, para. [0003], [0036], [0053], [0054], [0062], [0074], [0075], [0086]-[0088], [0104]-[0106], [0110], [0114]	1-20
A	US 2016/0192838 A1 (Hirsh, A) 07 July 2016, entire document	1-20
A	US 5,692,502 A (Alpert, S) 02 December 1997, entire document	1-20

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