

Title (en)

METHODS AND SYSTEMS FOR SEQUENCING DNA BY DISTINGUISHING THE DECAY TIMES OF FLUORESCENT PROBES

Title (de)

VERFAHREN UND SYSTEME ZUR SEQUENZIERUNG VON DNA MKITTELS UNTERSCHIEDUNG DER ZERFALLSZEITEN
FLUORESZIERENDER SONDEN

Title (fr)

SEQUEN AGE D'ADN PAR DIFFERENCIATION DES PERIODES DE DECROISSANCE D'EMISSION DE SONDAS FLUORESCENTES ET
SYSTEMES A CET EFFET

Publication

EP 1104491 A4 20030129 (EN)

Application

EP 99941073 A 19990811

Priority

- US 9918294 W 19990811
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- US 12206498 P 19980811
- US 13218198 A 19980811
- US 21329798 A 19981215

Abstract (en)

[origin: WO0009753A1] Methods, apparatus and systems for distinguishing various fluorophores based on their fluorescence lifetimes. The techniques of the present invention use modulated radiation to irradiate fluorophores in a detection region. A fluorescence detector outputs a signal proportional to the detected fluorescence emissions, and a processor analyzes the proportional signal to determine fluorescence lifetimes. If the excitation source emits, or is modulated to emit, excitation pulses, the processor can measure the decay time directly; if the excitation source emits, or is modulated to emit, a sinusoidally varying excitation signal, the processor can determine the fluorescence lifetimes by measuring the phase difference or the demodulation relative to an excitation modulation reference signal. A method is provided for identifying components of a mixture by labeling the individual components with fluorescent agents having different fluorescence lifetimes. The components are subsequently separated, fluorescent labels detected and their lifetimes measured. Based on the measured fluorescent lifetimes, the components of mixtures of small organic molecules, polymers, peptides, saccharides and nucleic acids can be identified.

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C-Set (source: EP)

C12Q 1/6869 + C12Q 2563/107 + C12Q 2561/12

Citation (search report)

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- See references of WO 0009753A1

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