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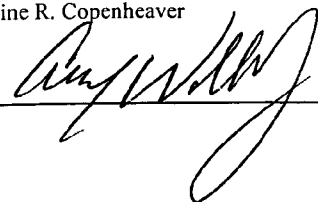
(54) Title: METHODS FOR DETECTING NUCLEIC ACIDS USING MULTIPLE SIGNALS

(57) Abstract: Disclosed is are methods for identifying a nucleic acid in a sample. In one example, the method includes: (a) contacting the nucleic acid in the sample with an oligonucleotide that is specific for the nucleic acid in the sample and that is labeled with at least a first fluorescent dye; (b) contacting the nucleic acid in the sample with a second fluorescent dye that is different from the first fluorescent dye, such that the second fluorescent dye interacts with the nucleic acid; (c) amplifying the nucleic acid if present in the sample; and (d) detecting the nucleic acid if present in the sample by observing fluorescence from the first fluorescent dye after the oligonucleotide hybridizes to the amplified nucleic acid and determining the melting temperature of the amplified nucleic acid by measuring the fluorescence of the second fluorescent dye. The second fluorescent dye may include a fluorescent intercalating agent.

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER Int. Cl. <i>C12Q 1/68</i> (2006.01) US Cl. 435/6 According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPIDS, CA, MEDLINE, BIOSIS: fluorescent, fluorophore, FRET, intercalate, melting temperature, Tm, real time, label, probe,		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 472 156 B1 (WITWER <i>et al</i>) 29 October 2002 whole of document	1-10, 13-15, 17-30, 33-40, 48-55, 57-62
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* "A"	Special categories of cited documents: document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"O"	document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P"	document published prior to the international filing date but later than the priority date claimed	
Date of the actual completion of the international search 31 October 2007		Date of mailing of the international search report 06 FEB 2008
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201		Authorized officer: Blaine R. Copenheaver Helpdesk: 571-272-4300 PCT OSP: 571-272-7774 

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	Wang S <i>et al</i> , "Fluorescein Provides a Resonance Gate for FRET from Conjugated Polymers to DNA Intercalated Dyes", <i>Journal of the American Chemical Society</i> , 2004, 126:5446-5451 whole of document	57-59, 61, 62
X	Talavera EM <i>et al</i> , "Fluorescence Energy Transfer Between Fluorescein Label and DNA Intercalators to Detect Nucleic Acids Hybridization in Homogeneous Media", <i>Applied Spectroscopy</i> , 2003, 57(2):208-215 whole of document	57, 61
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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2007/001859

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. These particulars are merely given for the purpose of information.

Patent Document Cited in Search Report		Patent Family Member					
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WO	2003/043402	AU	2002366046	US	2003143591	US	2005233360
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END OF ANNEX