



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant(s):	Stavrianopoulos et al.	)	
Serial No.:	08/486,070	)	Group Art Unit: 1631
Filed:	June 7, 1995	)	Ex'r: Ardin H. Marschel, Ph.D.
For:	ARRAYS AND SYSTEMS COMPRISING	)	
	ARRAYS FOR GENETIC ANALYSES AND	)	
	OTHER APPLICATIONS	)	
	(As Previously Amended)	)	

October 31, 2003

**HAND CARRY**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**AMENDMENT UNDER 37 C.F.R. §1.115**  
**(FOLLOWING OFFICE ACTION OF JULY 2, 2003)**

Dear Sirs:

This paper is directed to the July 2, 2003 Office Action. A response to the July 2, 2003 Office Action was originally due October 2, 2003. This paper is accompanied by a Petition for a One-Month Extension of Time with a check in the amount of \$110. Accordingly, this paper is timely filed.

Please amend the above-identified Application as follows. Amendments to the Abstract begin on page 2 of this paper. Amendments to the claims begin on page 3 of this paper. Remarks begin on page 84 of this paper.

**In The Claims:**

Please cancel claims 1576-2160 and enter new claims 2161-3143.

Claims 1-2160 (cancelled).

Claim 2161. (NEW) A non-porous solid support comprising a single-stranded nucleic acid fixed or immobilized in hybridizable form thereto.

Claim 2162. (NEW) The solid support of claim 2161, wherein said solid support comprises siliceous matter or polymeric material.

Claim 2163. (NEW) The solid support of claim 2162, wherein said siliceous solid support comprises glass.

Claim 2164. (NEW) The solid support of claim 2163, wherein said solid support comprises a plate, a well or wells, depressions, tubes, cuvettes, beads, or a set of said plates, wells, depressions, tubes, cuvettes or beads.

Claim 2165. (NEW) The solid support of claim 2163, wherein said glass comprises a plate or a set of plates.

Claim 2166. (NEW) The solid support of claim 2164, wherein said plate or plates comprise microtiter well plates.

Claim 2167. (NEW) The solid support of claim 2164, wherein said wells comprise microtiter wells.

Claim 2168. (NEW) The solid support of claim 2162, wherein said polymeric solid support comprises plastic.

Claim 2169. (NEW) The solid support of claim 2168, wherein said plastic comprises polyethylene, polypropylene, polystyrene or polyepoxide.

Claim 2170. (NEW) The solid support of claim 2168, wherein said plastic comprises a plate, a well or wells, depressions, tubes, cuvettes, beads, or a set of said plates, wells, depressions, tubes, cuvettes or beads.

Claim 2171. (NEW) The solid support of claim 2170, wherein said plate or plates comprise polystyrene plate(s).

Claim 2172. (NEW) The solid support of claim 2170, wherein said wells comprise microtiter wells.

Claim 2173. (NEW) The solid support of claim 2170, wherein said wells comprise polystyrene microfilter wells.

Claim 2174. (NEW) The solid support of claim 2170, wherein said wells comprise removable wells.

Claim 2175. (NEW) The solid support of claim 2161, wherein said solid support comprises more than one surface.

Claim 2176. (NEW) The solid support of claim 2162, comprising reactive site(s) or binding site(s) thereon.

Claim 2177. (NEW) The solid support of claim 2175, comprising reactive site(s) or binding site(s) on said more than one surface.

Claim 2178. (NEW) The solid support of claim 2162, wherein said solid support has been treated with a surface treatment agent.

Claim 2179. (NEW) The solid support of claim 2178, wherein said surface treatment agent comprises an amine providing compound, an epoxy glue or solution, an acid solution, or ammonium acetate.

Claim 2180. (NEW) The solid support of claim 2179, wherein said amine providing compound comprises an amino-substituted hydrophobic polymer.

Claim 2181. (NEW) The solid support of claim 2179, wherein said amine providing compound comprises dodecadiamine (DDA), polylysine (PPL),  $\gamma$ -aminopropyltriethoxysilane or epoxy glue or solution.

Claim 2182. (NEW) The solid support of claim 2179, wherein said amine providing compound comprises polylysine (PPL).

Claim 2183. (NEW) The solid support of claim 2178, wherein said surface treatment agent comprises an epoxy glue or solution.

Claim 2184. (NEW) The solid support of claim 2178, wherein said surface treatment agent

comprises an acid solution.

Claim 2185. (NEW) The solid support of claim 2184, wherein said acid solution exposes a hydroxyl group or hydroxyl groups on said solid support.

Claim 2186. (NEW) The solid support of claim 2176, wherein said reactive site(s) or binding site(s) comprise one or more amine, polyamine, amino-substituted or amino-derivatized groups thereon.

Claim 2187. (NEW) The solid support of claim 2186, wherein said amine, polyamine, amino-substituted or amino-derivatized groups result from treatment of said solid support with a surface treatment agent.

Claim 2188. (NEW) The solid support of claim 2187, wherein said surface treatment agent comprises dodecadiamine (DDA), polylysine (PPL),  $\gamma$ -aminopropyltriethoxysilane, or epoxy glue or solution.

Claim 2189. (NEW) The solid support of claim 2161, wherein said nucleic acid is fixed or immobilized to an amine or polyamine on said solid support.

Claim 2190. (NEW) The solid support of claim 2176, wherein said reactive site(s) or binding site(s) have been provided by a coating solution.

Claim 2191. (NEW) The solid support of claim 2190, wherein said coating solution comprises dodecadiamine (DDA), polylysine (PPL),  $\gamma$ -aminopropyltriethoxysilane, epoxy glue or solution, or acid solution.

Claim 2192. (NEW) The solid support of claim 2176, wherein said reactive site(s) or binding site(s) comprise hydroxyl groups.

Claim 2193. (NEW) The solid support of claim 2192, wherein said hydroxyl groups result from treatment of said solid support with an acid solution.

Claim 2194. (NEW) The solid support of claim 2176, wherein said solid support has been treated with a blocking agent.

Claim 2195. (NEW) The solid support of claim 2194, wherein said blocking agent comprises Denhardt's solution.

Claim 2196. (NEW) The solid support of claim 2161, wherein said nucleic acid is fixed or immobilized directly to said solid support.

Claim 2197. (NEW) The solid support of claim 2196, wherein said direct fixation or immobilization to said solid support is covalent.

Claim 2198. (NEW) The solid support of claim 2196, wherein said direct fixation or immobilization to said solid support is non-covalent.

Claim 2199. (NEW) The solid support of claim 2161, wherein said nucleic acid is fixed or immobilized indirectly to said solid support.

Claim 2200. (NEW) The solid support of claim 2199, wherein said indirect fixation or immobilization to said solid support is covalent.

Claim 2201. (NEW) The solid support of claim 2199, wherein said indirect fixation or immobilization to said solid support is non-covalent.

Claim 2202. (NEW) The solid support of claim 2161, wherein said nucleic acid is fixed or immobilized to said solid support by sandwich hybridization.

Claim 2203. (NEW) The solid support of claim 2175, wherein said nucleic acid is fixed or immobilized to one of said reactive site(s) or binding site(s).

Claim 2204. (NEW) The solid support of claim 2161, wherein said nucleic acid comprises DNA or RNA.

Claim 2205. (NEW) The solid support of claim 2161, wherein said nucleic acid comprises a nucleic acid sequence complementary to a nucleic acid sequence of interest or sought to be identified or quantified or sequenced.

Claim 2206. (NEW) The solid support of claim 2205, wherein said nucleic acid sequence of interest or sought to be identified or quantified or sequenced is isolated or derived from a biological or non-biological sample.

Claim 2207. (NEW) The solid support of claim 2206, wherein said biological sample comprises blood, urine, feces, saliva, pus, semen, serum or tissue.

Claim 2208. (NEW) The solid support of claim 2206, wherein said non-biological sample comprises fermentation broth or culture media.

Claim 2209. (NEW) The solid support of claim 2205, wherein said nucleic acid sequence of interest or sought to be identified or quantified or sequenced comprises a gene or gene sequence, or a pathogen or pathogenic sequence.

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