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(51) International classification	:B01L0003000000, A61K0038480000, G01N0033569000, G01N0035100000, G01P0013020000	(71) <b>Name of Applicant :</b> <b>1)THEVASAHAYAM AROCKIADOSS</b> Address of Applicant :ASSISTANT PROFESSOR AND HEAD IN CHARGE, DEPARTMENT OF PHYSICS - DBE, MADURAI KAMARAJ UNIVERSITY, PALKALAI NAGAR MADURAI TAMIL NADU INDIA 625021 Tamil Nadu India
(31) Priority Document No	:NA	(72) <b>Name of Inventor :</b>
(32) Priority Date	:NA	<b>1)THEVASAHAYAM AROCKIADOSS</b>
(33) Name of priority country	:NA	<b>2)Dr. MUTHUKALINGAN KRISHNAN</b>
(86) International Application No	:NA	<b>3)ASHOK KUMAR BALASUBRAMANIAM</b>
Filing Date	:NA	<b>4)DR. PERUMAL VARALAKSHMI</b>
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(57) Abstract :

TITLE: DIAGNOSIS AND QUALIFICATION OF COVID-19 EMPLOYING LAB-ON-CHIP TECHNOLOGY• APPLICANT: THEVASAHAYAM AROCKIADOSS ABSTRACT The present invention discloses a rapid diagnosis and quantification tool for COVID-19 employing LAB-ON-CHIP technology and method thereof. The tool of the present invention comprises of base with two wells adapted to house two Zn-ZnO- ACE2 electrode. Each electrode comprises of two probes and one probe from the two electrodes are coupled with AC input and another probe from the two electrodes are coupled with circuit board/LIDS SENSO instruments capacitor output. The tool further comprises of sample input for introducing the sample to the device. The two probes coupled with AC input on applying an alternating current of peak to peak 4 Volts with frequency of 100Hz to 1 KHz in particular 500 Hz according to the concentration of ACE2 receptor, attracts the N-terminal spike protein of SARS CoV-2 by N- terminal of ACE2 receptor. This combination of SARS CoV-2 with ACE2 receptor results in change in capacitance (as a Key point) which can be measured with another 2 probes for the identification as well as quantification of COVID 19.

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