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(71) Applicant: **D-NOME PRIVATE LIMITED** [IN/IN]; 3rd
Floor, AIC-CCMB, CCMB Annex-2, Genpact Road, IDA
UPPAL, Telangana, Hyderabad 500007 (IN).

(72) Inventors: **DEB, Sujoy**; A/2/4 Minati Apartments, Garia,
Mahamayatal, Garia, West Bengal, Kolkata 700084 (IN).
SRIRAM, Divya; Flat 301A, Fortune Homes 1, Plot 64/65,
Chikhali Layout, near Sarathi Public School, Dabha, Maha-
rashtra, Nagpur 440023 (IN).

(74) Agent: **M., Madhavi**; A6-803, Elita Promenade Apts., 18th
Main, J.P. Nagar 7th Phase, Bengaluru 560078 (IN).

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(54) Title: RAPID METHOD FOR ROOM TEMPERATURE REVERSE TRANSCRIPTION LOOP-MEDIATED ISOTHERMAL
AMPLIFICATION (RT-LAMP) AND REAGENT KIT

(57) Abstract: The present invention relates to a rapid method to perform reverse transcription loop-mediated isothermal amplification (RT-LAMP) and LAMP at room temperature between 25-42°C, more specifically at 25-37°C, to detect RNA/DNA in a sample and a reagent kit thereof. Further, the invention relates to an *in vitro* method to detect SARS-CoV2 using RT-LAMP at room temperature between 25-42°C, more specifically at 37°C. The reagent kit comprises of enzymes/proteins - Klenowexo-/-, ApaI, High fidelity Taq Pol, Rpa32, StpA, AMV-RT for reverse transcriptase; buffer composition of - Tris-HCl, MgSO₄, KCl, DTT, PEG, DMSO, 1mM dNTPs each, at least 4 primers, and fluorescent dye, more specifically propidium iodide.



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