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Cellular combustion at the transition of a spherical flame front to a flat front at the initiated ignition of methane–air, methane–oxygen and *n*-pentane–air mixtures

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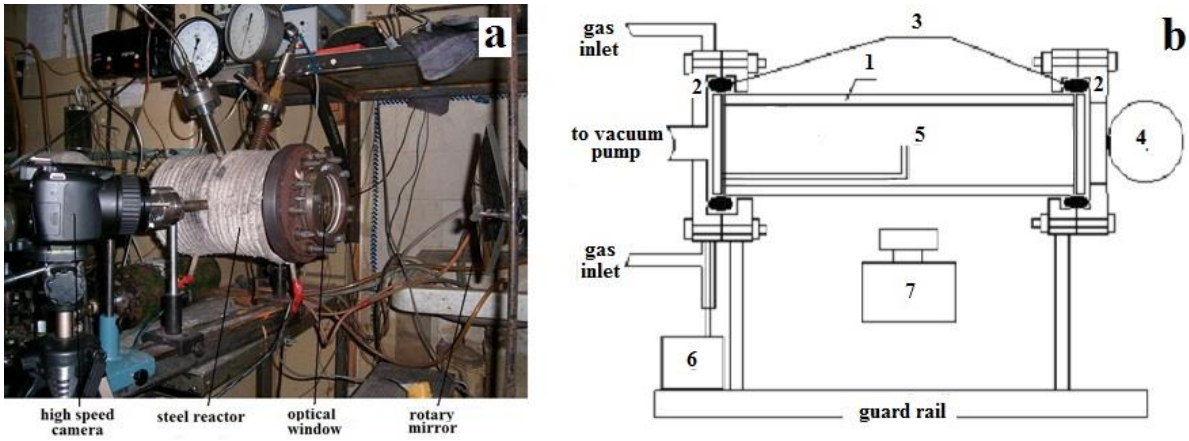

Figure S1 (*a*) Stainless steel cylindrical reactor (reactor *1*) with systems of pumping out and registration of parameters; (*b*) 1 – quartz cylindrical reactor (reactor *2*) , 2 – stainless steel gateway, 3 – silicone laying, 4 – stainless steel shutter, 5 – spark electrodes, 6 – power supply, and 7 – high-speed color movie camera Casio Exilim F1 Pro.

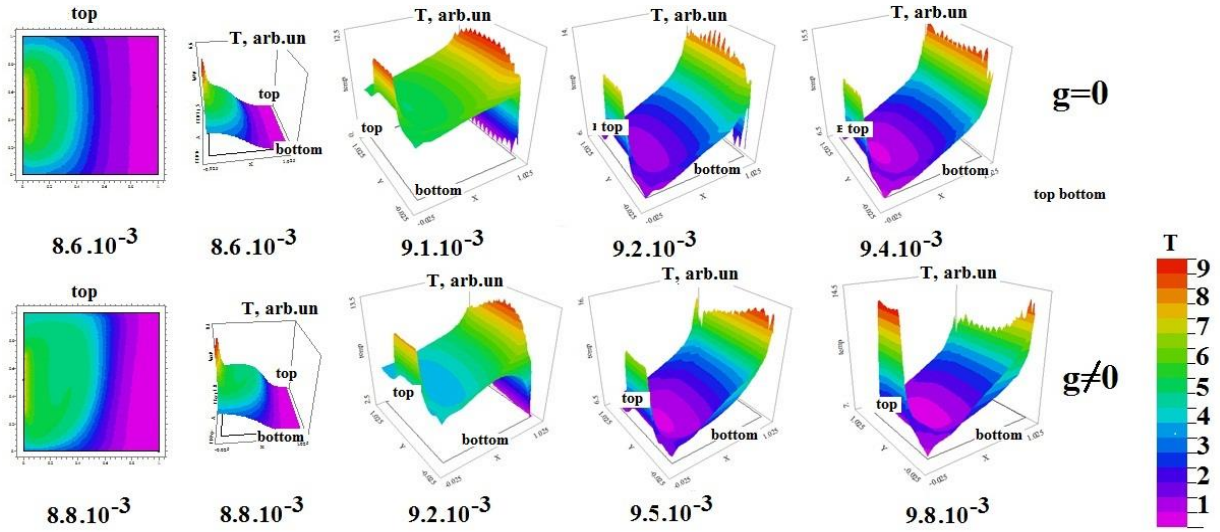

Figure S2 Calculated dependencies of two-dimensional temperature field on time. Time in s is given under each ‘shot’. The top row of images corresponds to lack of gravity. On each ‘shot’ of the bottom row of images gravity is directed from down to top. The scale of temperatures is presented in the bottom row.

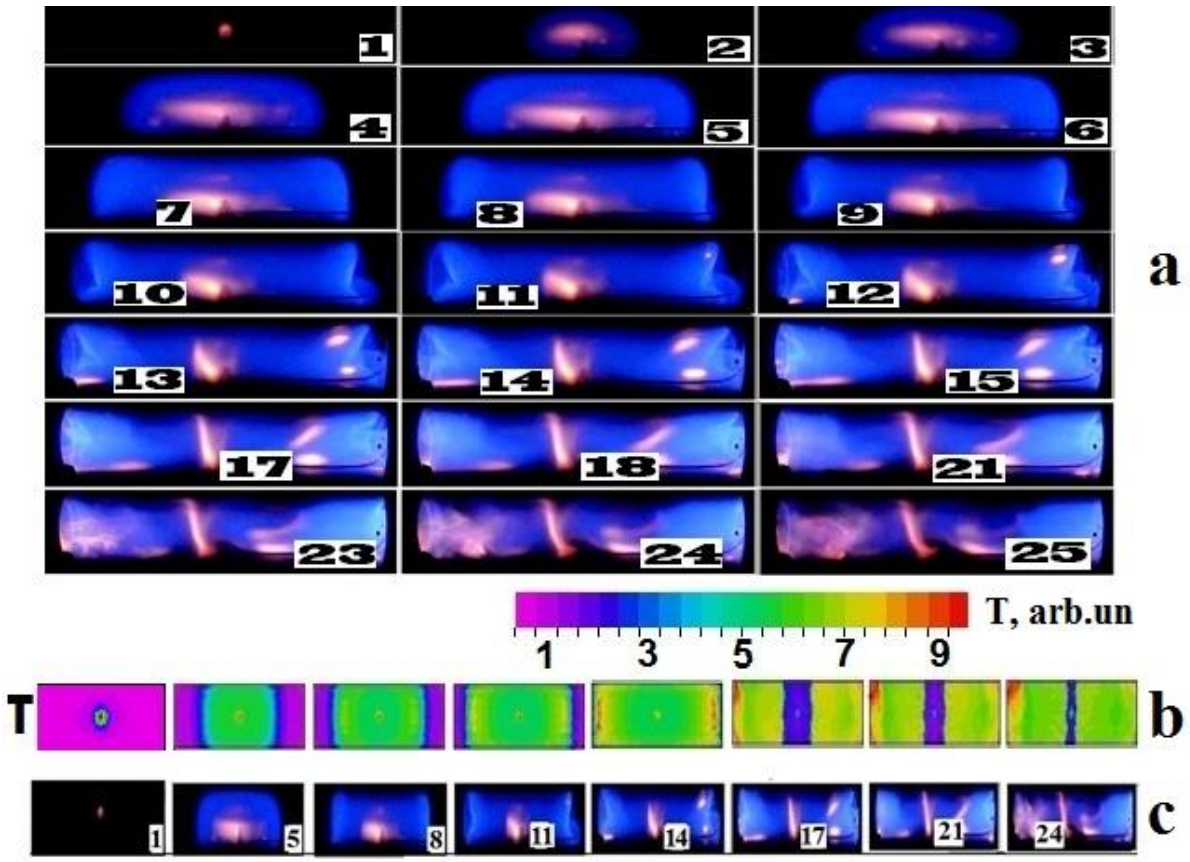

Figure S3 (*a*) High-speed filming of FF in reactor *2*, 600 frames/s, the figure on a frame corresponds to frame number after discharge. 'Side view' visualization. (*b*) Numerical modeling of temperature field at flame propagation from the geometrical center of the reactor with use of set (1), see footnote‡, reaction is set by Arrhenius equation. (*c*) Experimental data of (*a*).