Supporting Information

SI 1 (A) The fluorescence image of the array of trapped single droplets containing 50 µM resorufin. The droplet position was marked by x and y axis along the row and column of the array. (B, C) The integrated fluorescence intensity of droplets along x and y direction were measured.

SI 2 The fluorescence changes of droplets caused by the transfer of the different concentrations of H₂O₂: (A) 0 M, (B) 0.03 M, (C) 0.3 M, (D) 0.6 M.

SI 3 96 plate-well fluorescence assay of 0.07 mg/mL horseradish peroxidase in pH 8.0 Tris-HCl solution was performed with the concentrations of hydrogen peroxide ranging from 0.1 mM to 1.0 mM and 50 uM resorufin. The fluorescence intensity was recorded by Flashscan 550 (Analytik Jena) using WinFlash at Ex/Em 565/580 nm.