

Supporting Information for

Interfacial Redox Chemistry–Driven Formation and Inhibition of Nanoparticles in Ultrasonic-Humidifier Microdroplets

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Fig. SI-1. Particulate matter concentration measured at different distances (10cm, 33cm, 67cm)

Fig. SI-2. X-ray photoelectron spectroscopy (XPS) survey spectrum of particulate matter generated by ultrasonic humidification.

Fig. SI-3. Standard calibration curve for calcium quantification using the Colorimetric Calcium Assay Kit.

Fig. SI-4. Effect of superoxide dismutase (SOD) on particulate matter concentration in tap water.

Fig. SI-5. Effect of salicylic acid on particulate matter concentration in tap water.

Fig. SI-6. Effect of sodium nitrate on particulate matter concentration in tap water.

Fig. SI-7. Effect of catalase on particulate matter concentration in tap water.

Fig. SI-8. Effect of reactive oxygen species (ROS) scavengers (NAC 0.1 mg/L, catalase 2 U/mL, SOD 2.25 U/mL, DMSO 1 %, salicylic acid 10 μ M, NaNO_3 100 μ M) on particulate matter generation in DI water.

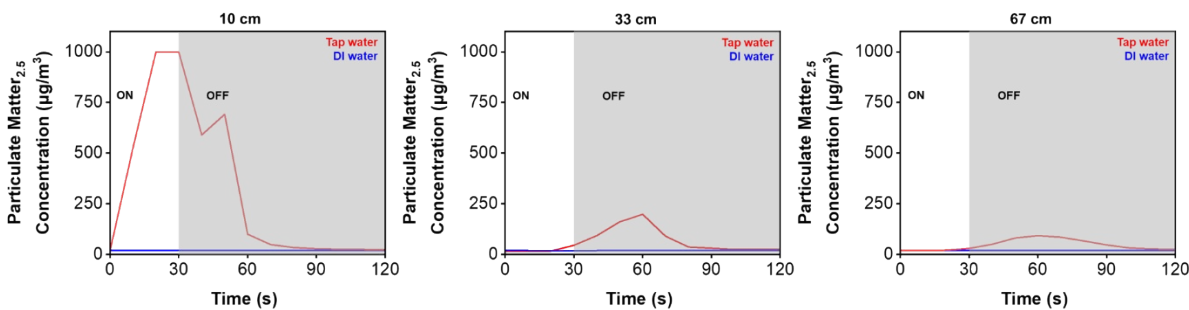


Fig. SI-1. Particulate matter concentration (PM_{2.5}) measured during ultrasonic humidifier operation (white, humidifier on; gray, humidifier off) using tap water (red) and DI water (blue) at different distances (10 cm, 33 cm, and 67 cm) between the ultrasonic humidifier outlet and the PM detector.

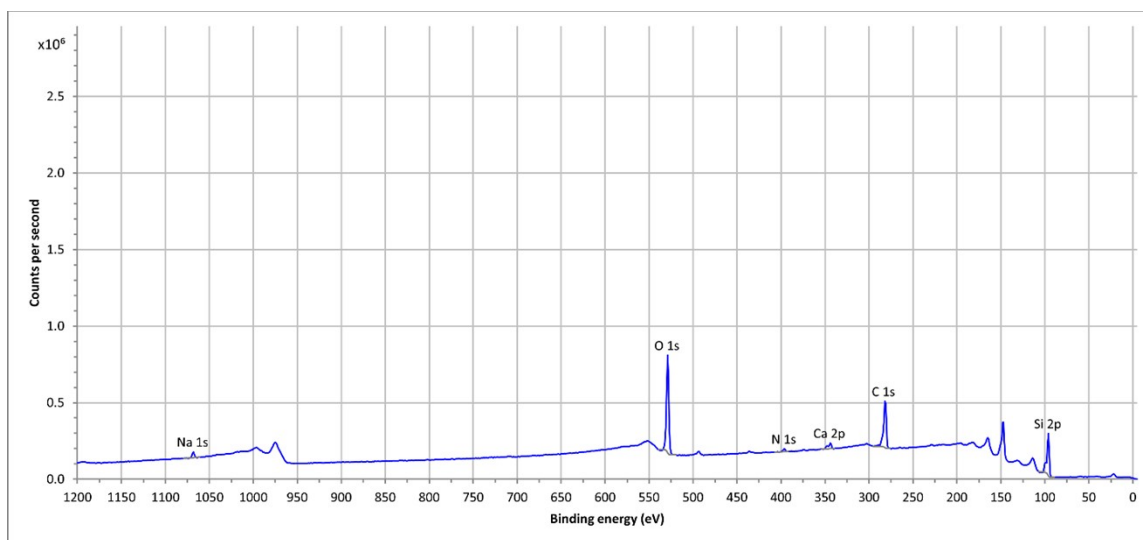


Fig. SI-2. X-ray photoelectron spectroscopy (XPS) survey spectrum of particulate matter generated by ultrasonic humidification.

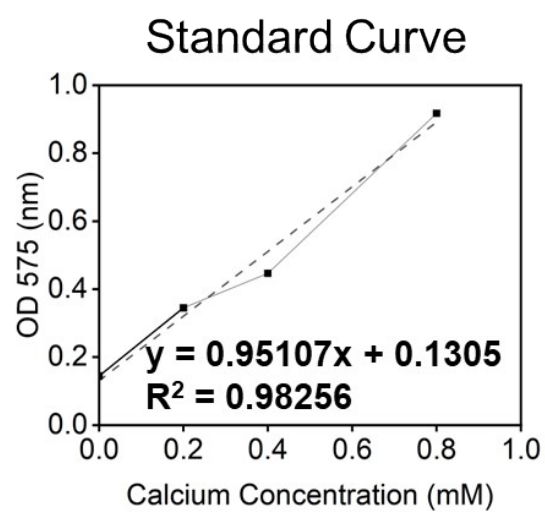


Fig. SI-3. Standard calibration curve for calcium quantification using the Colorimetric Calcium Assay Kit.

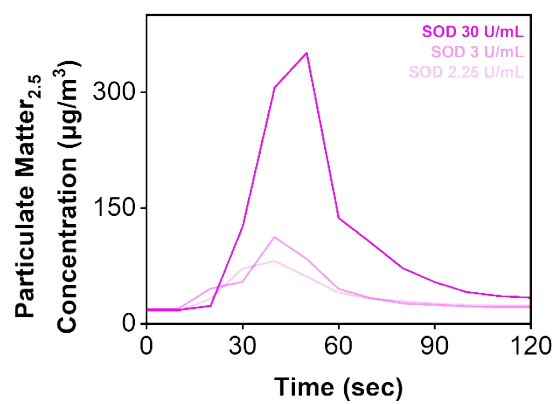


Fig. SI-4. Effect of superoxide dismutase (SOD) on particulate matter concentration in tap water.

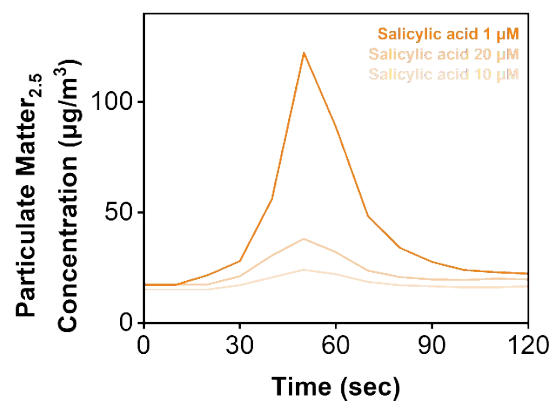


Fig. SI-5. Effect of salicylic acid on particulate matter concentration in tap water.

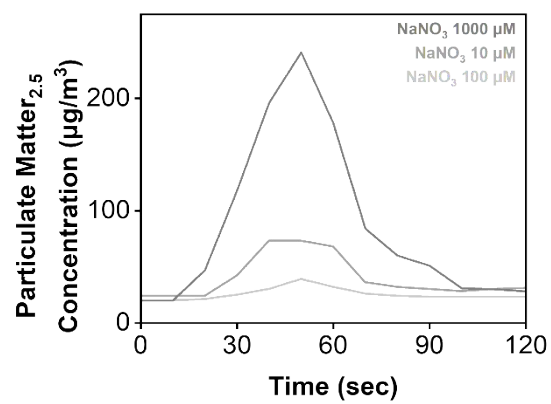


Fig. SI-6. Effect of sodium nitrate on particulate matter concentration in tap water.

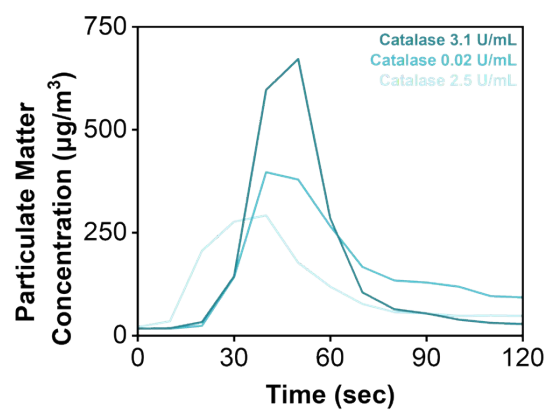


Fig. SI-7. Effect of catalase on particulate matter concentration in tap water.

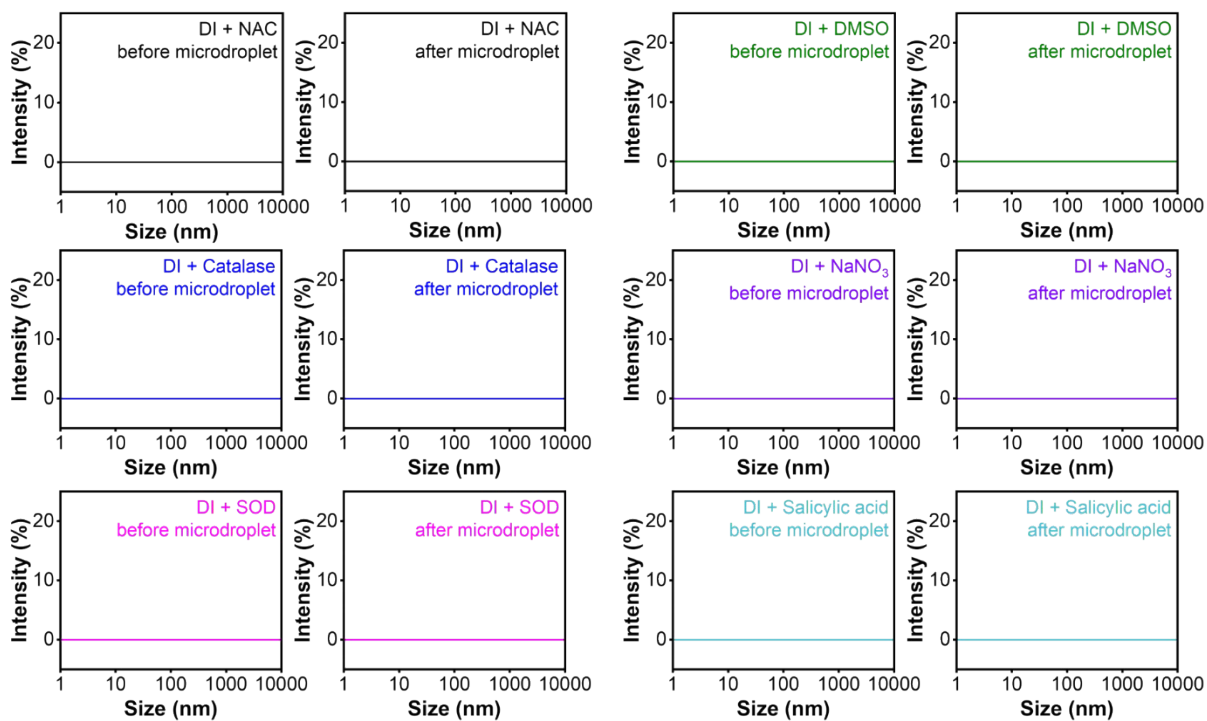


Fig. SI-8. Effect of reactive oxygen species (ROS) scavengers (NAC, 0.1 mg/L; catalase, 2 U/mL; SOD, 2.25 U/mL; DMSO, 1%; salicylic acid, 10 μ M; NaNO_3 , 100 μ M) on particulate-matter generation in DI water. Particulate-matter concentrations were measured by dynamic light scattering (DLS). The concentrations of the scavengers were the same as those listed in Table 2.