

Supplementary material

CFD simulation of spatiotemporal distribution of residual chlorine in secondary water supply tanks

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Fig. S1

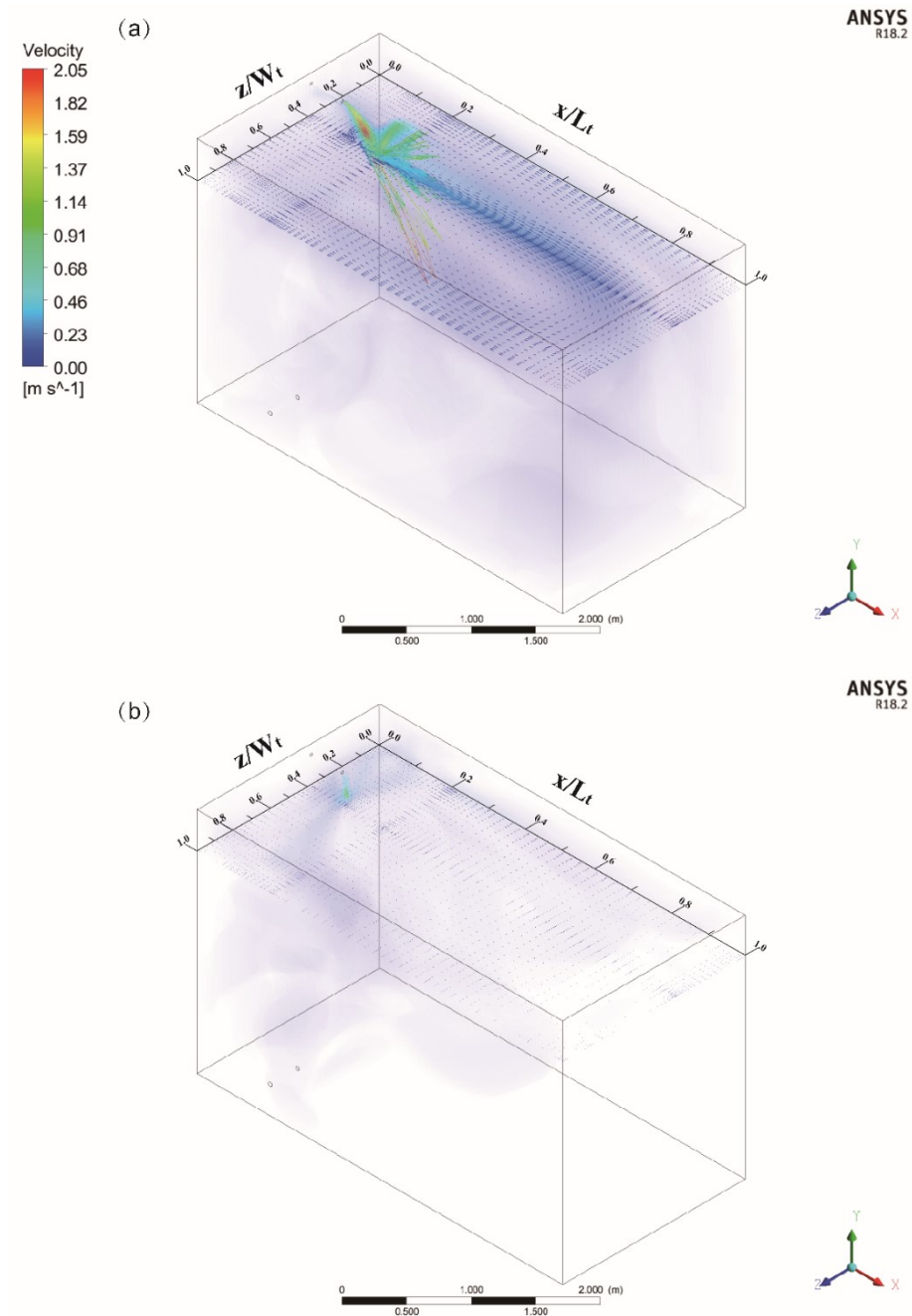


Fig. S1 3D flow profile at a) the common service conditions at 40 min when inflow velocity = 1.22 m/s; outflow velocity = 0 m/s; and b) at 60 min when inflow velocity = 0.10 m/s; outflow velocity = 0 m/s.

Fig. S2

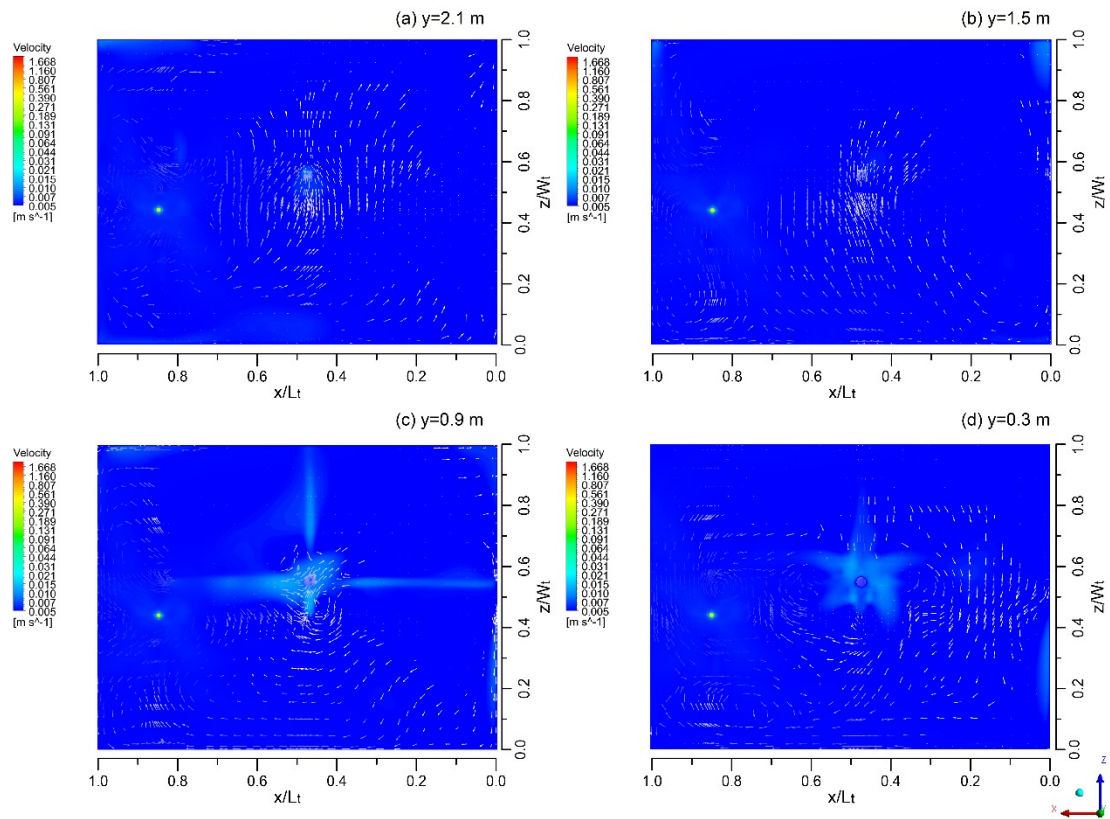


Fig. S2 The simulated velocity profile at a horizontal cross-section 2.1 m (a), 1.5 m (b), 0.9 m(c), and 0.3 m(d) from the bottom of RLt under the operating condition.

Fig. S3

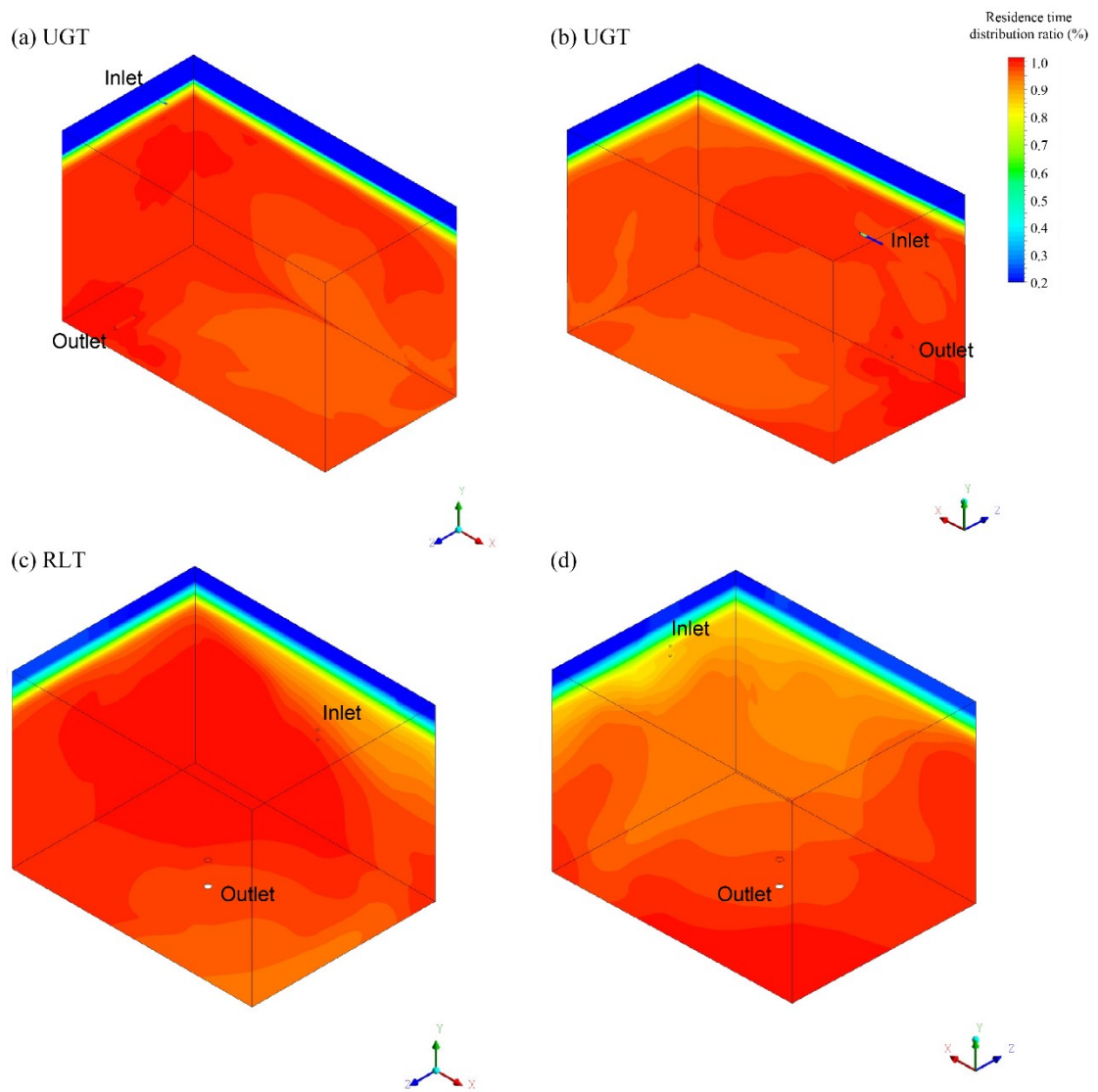


Fig. S3 The spatial distribution of the mean age ratio of the residual chlorine in UGT and RLT at the end of simulation time.

Fig. S4

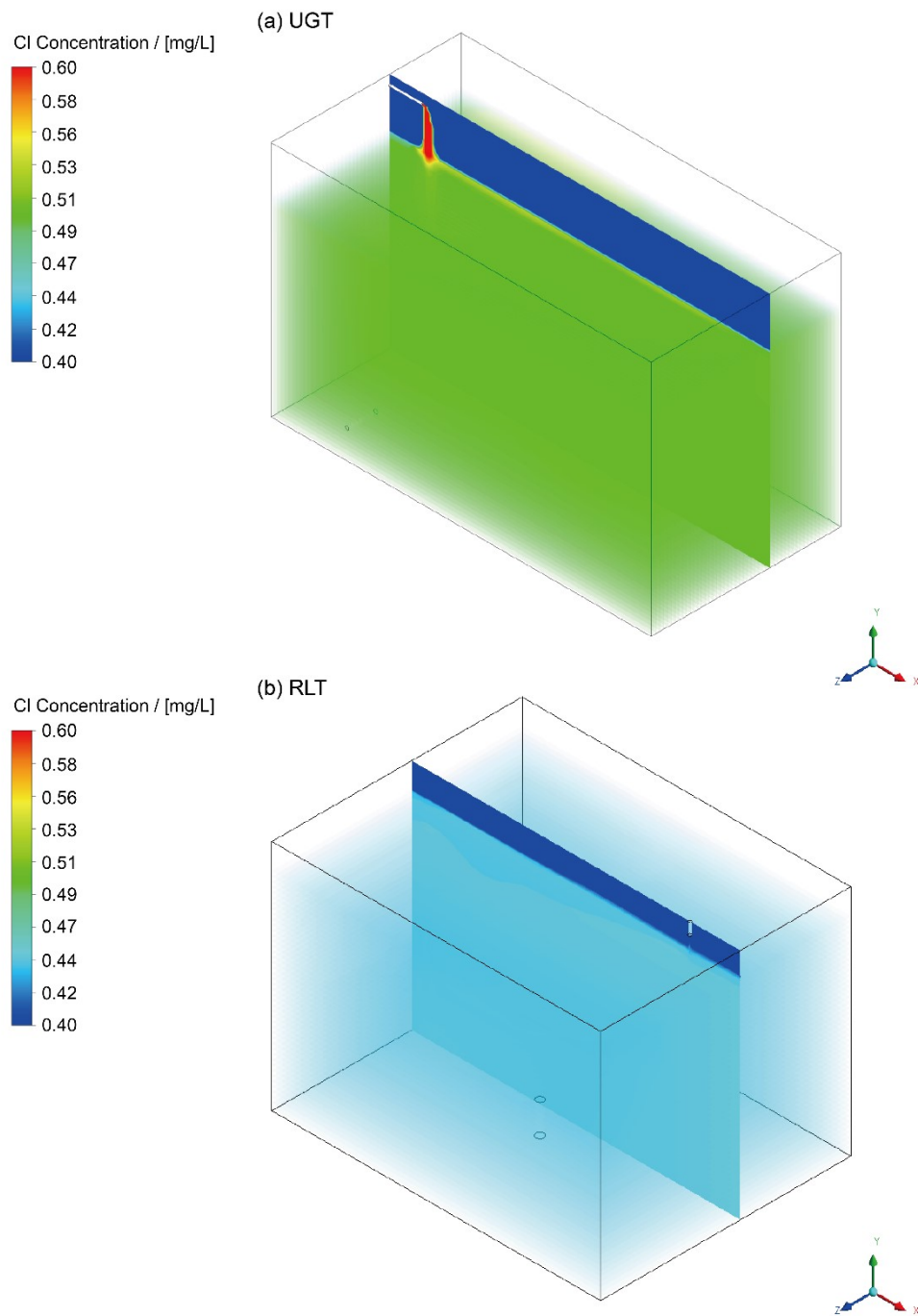


Fig. S4 Chlorine distribution in a) UGT and b) RLT in the last simulation time of 1440th

min

Fig. S5

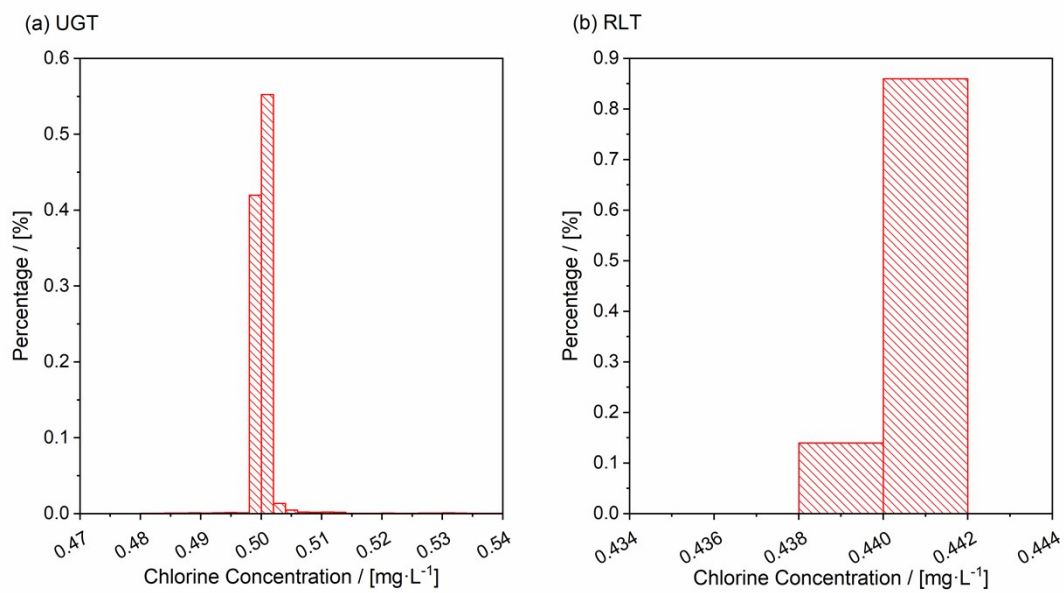


Fig. S5 Histogram of chlorine concentration in the water of a) UGT and b) RLT. Bin size is $0.002 \text{ mg}\cdot\text{L}^{-1}$

Fig. S6

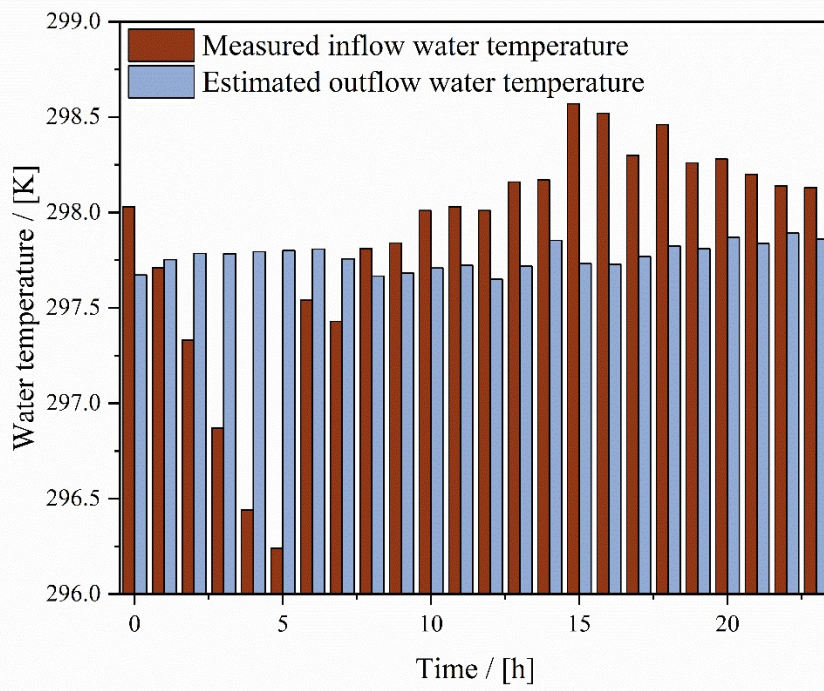


Fig. S6 The water temperatures of measured inflow and estimated outflow for UGT.