

Description of Additional Supplementary Files

Supplementary Data 1: Detailed description of sampling locations including wastewaters, receiving waters, and drinking waters.

Supplementary Data 2: Overview of 583 metagenome-assembled genomes in urban water system.

Supplementary Data 3: Taxonomic classification of 583 MAGs at different taxonomic levels.

Supplementary Data 4: Summary of the 38 ARG-carrying MAGs recovered from urban water system.

Supplementary Data 5: Summary statistics of metagenomic assembly quality across samples.

Supplementary Data 6: The determination results of abiotic factors across samples in urban water system.