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Effects of antibiotic resistance genes on the performance and stability of different microbial aggregates in a granular sequencing batch reactor

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Highlights

- The inoculation of donor strain undermined treatment efficiencies of bioreactor.
- The presence of RP4 plasmid affected the activity of ammonia-oxidizing bacteria.
- Granular sludge shortened the residence time of RP4 in sludge.
- Granular sludge system could reduce the ecological risk from ARGs.

Abstract

Antibiotic resistance genes (ARGs) have emerged as key factors in wastewater environmental contaminants and continue to pose a challenge for wastewater treatment processes. With the aim of investigating the performance of granular sludge system when treating wastewater containing a considerable amount of ARGs, a lab-scale granular sequencing batch reactor (GSBR) where flocculent and granular sludge

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