Supporting Information

Impact of Polylactic Acid Microplastics on Performance and Microbial Dynamics in Activated Sludge System

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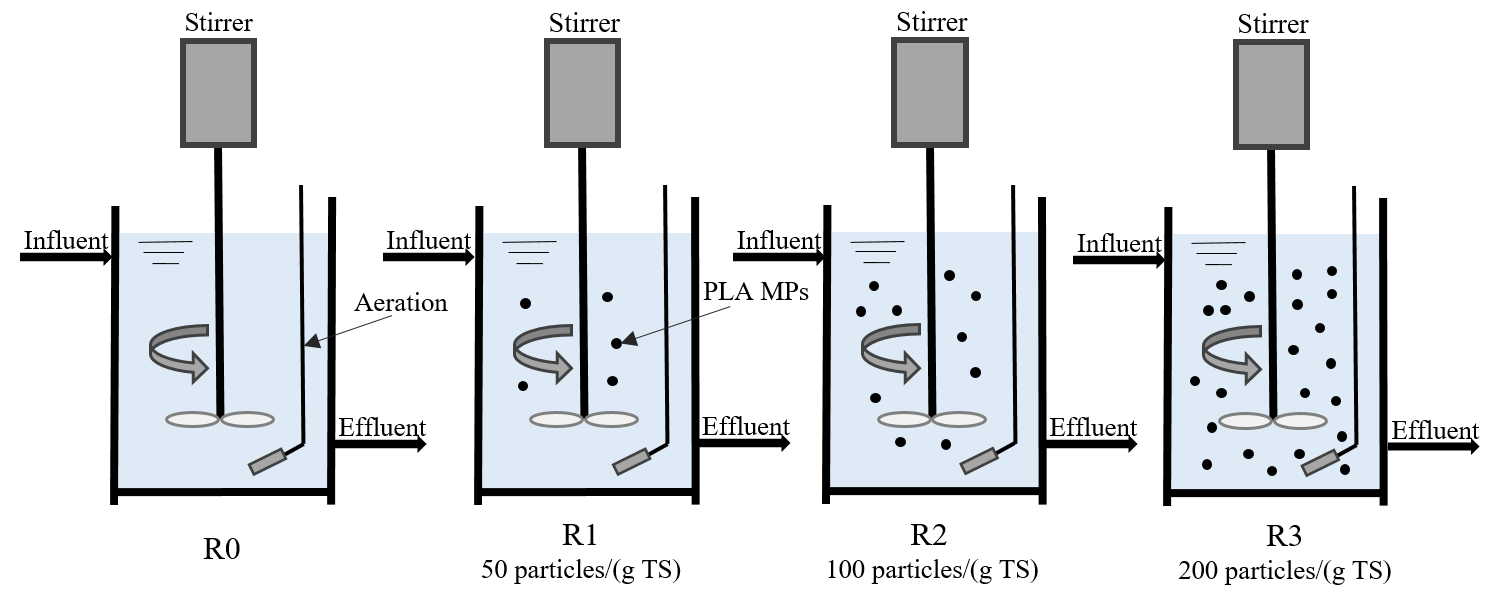
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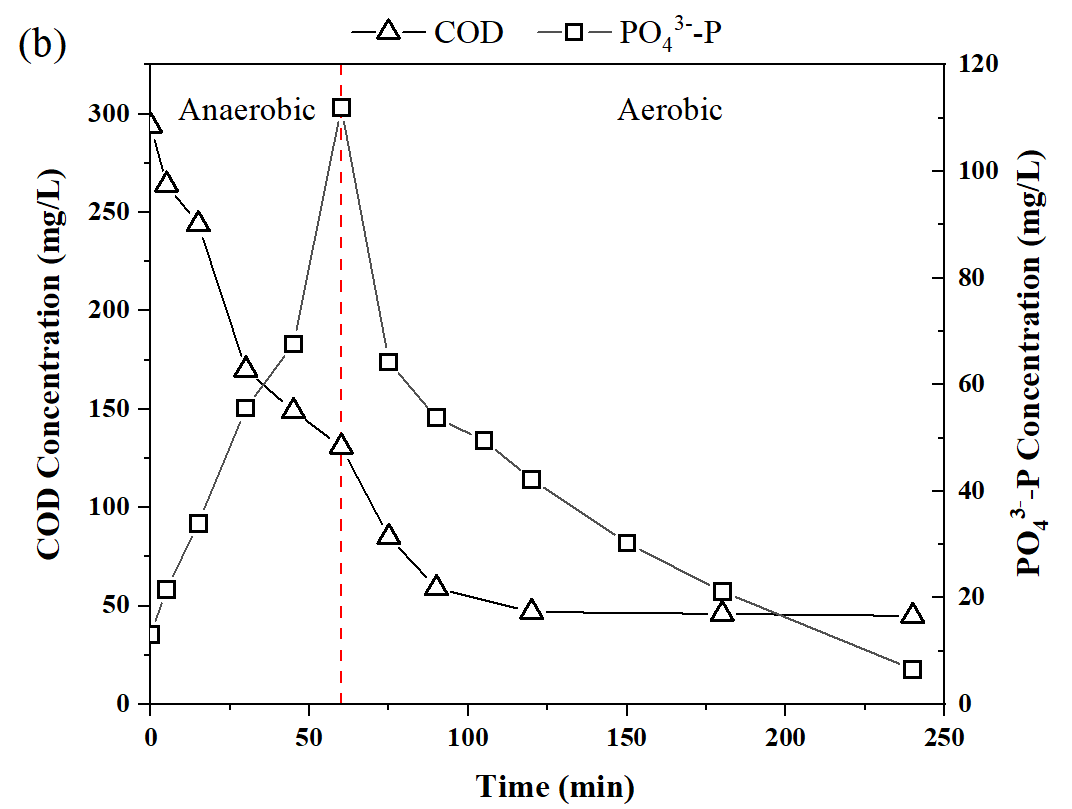
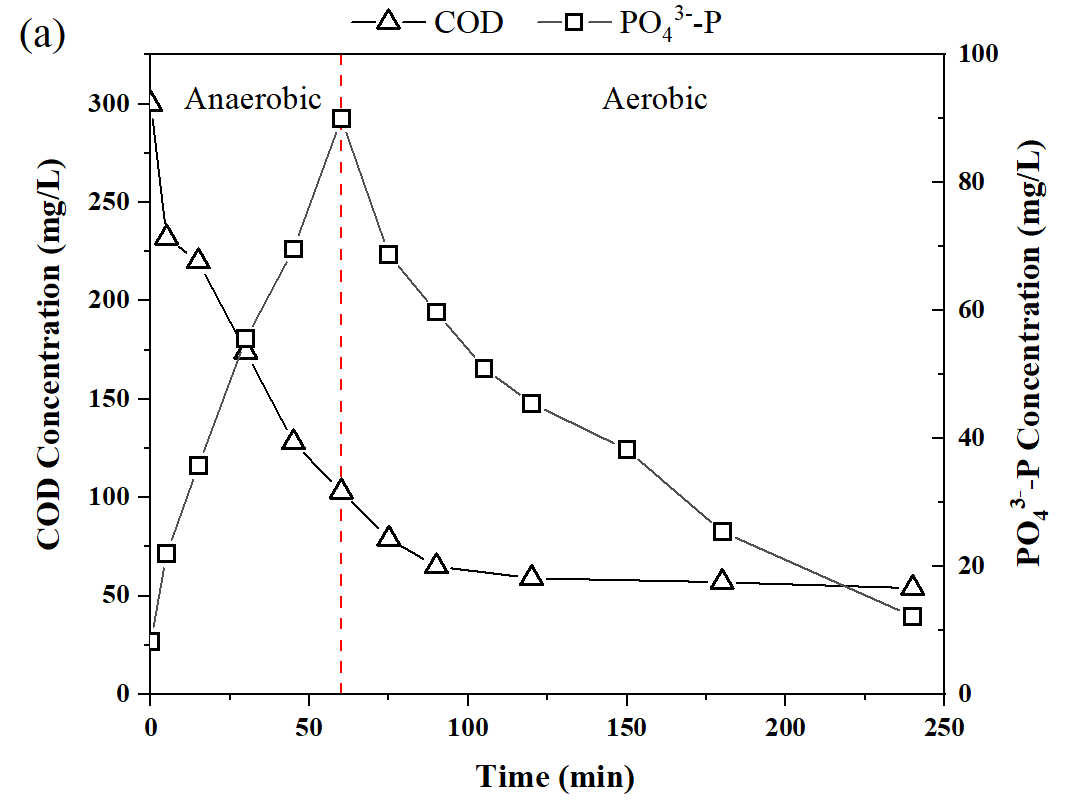
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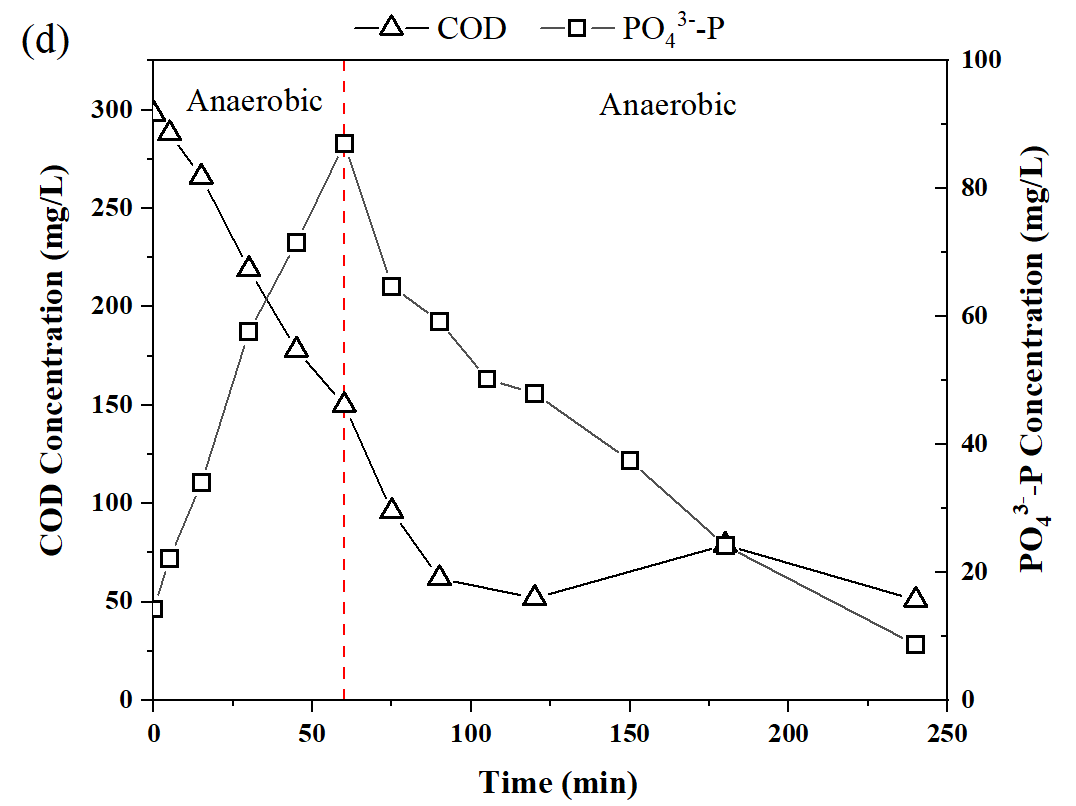
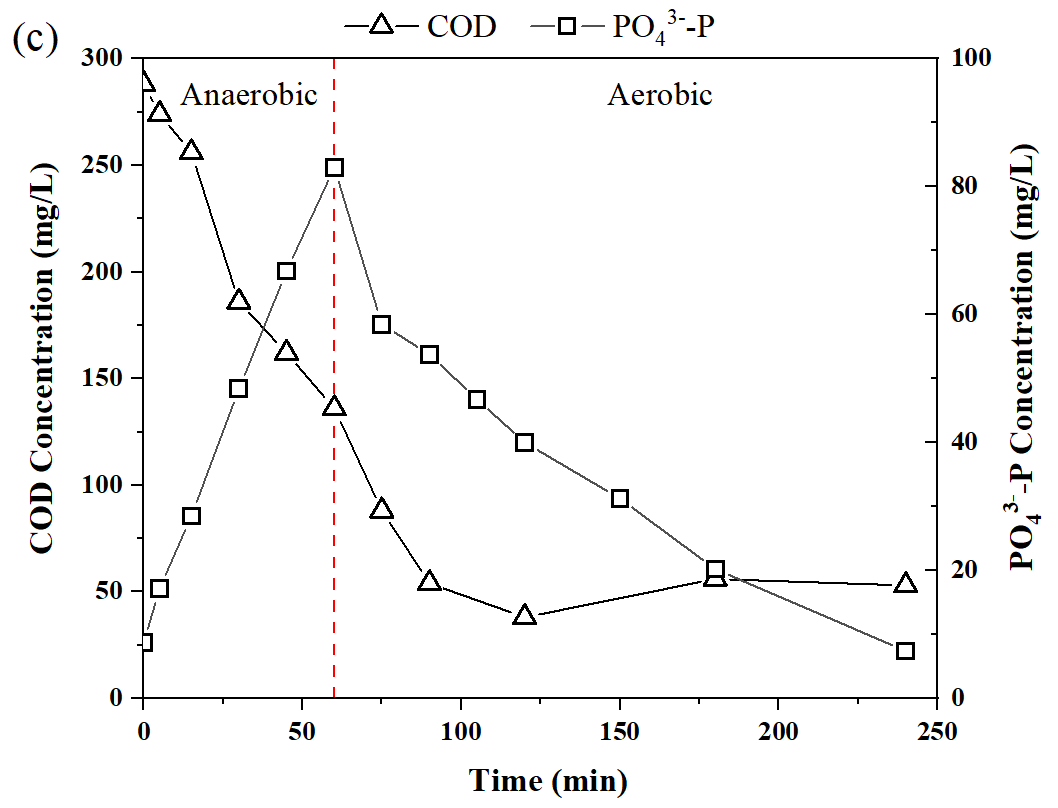
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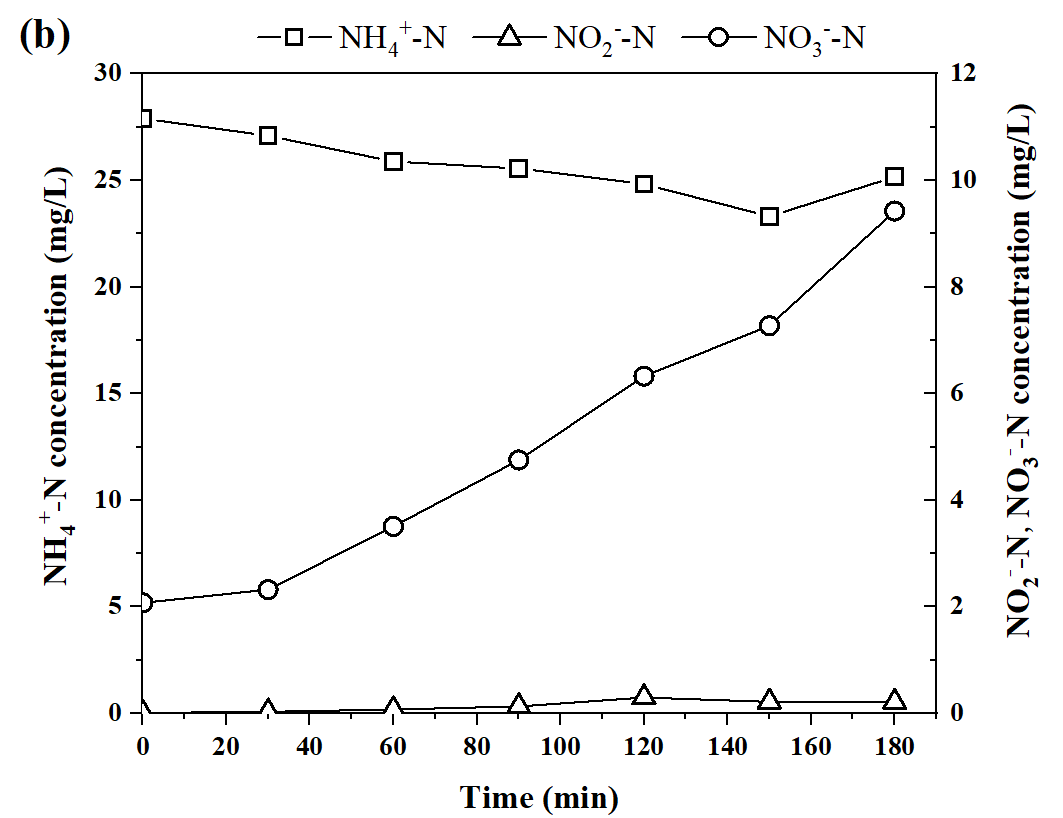


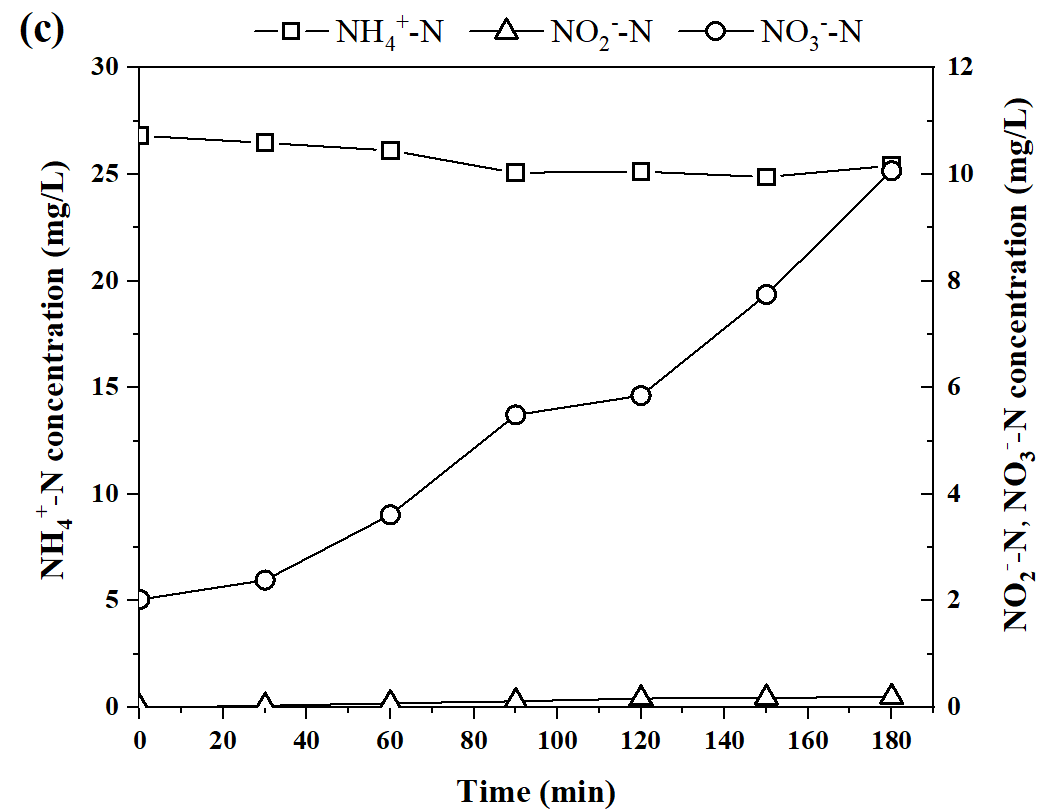
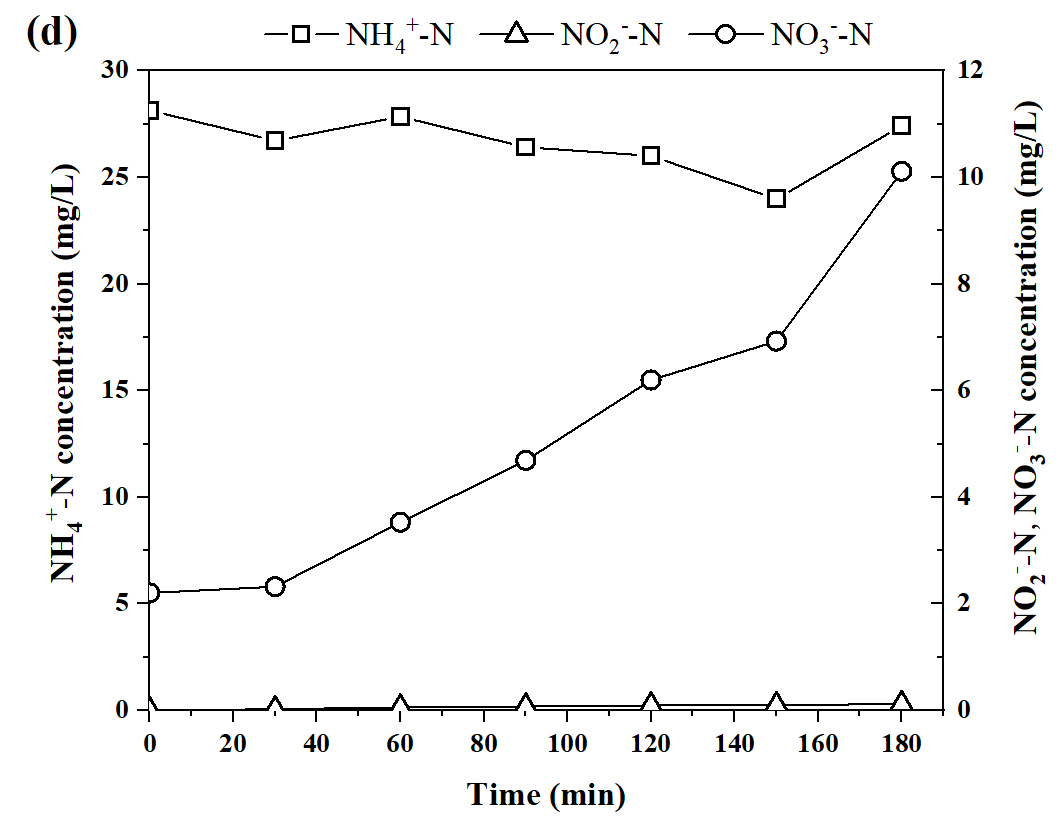
**Figure S1** SBRs used in this study.



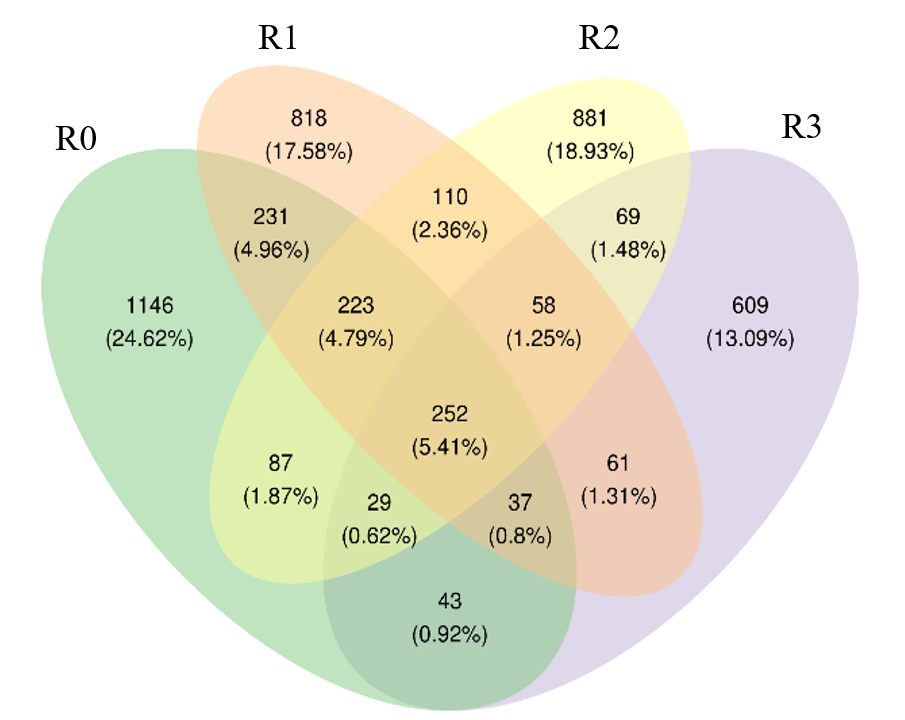


**Figure S2** Profiles of PO43--P and COD during EBPR activity batch tests with the sludge collected from (a) R0, (b) R1, (c) R2, and (d) R3.



**Figure S3** Profiles of NH4+-N, NO2--N and NO3--N during nitrification activity batch tests with the sludge collected from (a) R0, (b) R1, (c) R2, and (d) R3.



**Figure S4** Common and unique ASVs in different samples.

**Table S1** Composition and concentration of trace elements in synthetic wastewater.

|  |  |
| --- | --- |
| Composition | Concentration (mg/L) |
| Yeast extract | 8 |
| MgCl2·6H2O | 219 |
| MgSO4·7H2O | 14 |
| KCl | 98 |
| CaCl2 | 46 |
| H3BO3 | 0.061 |
| Na2MoO4·2H2O | 0.031 |
| KI | 0.015 |
| CuSO4·5H2O | 0.061 |
| Co(NO3)2·6H2O | 0.075 |
| ZnSO4·7H2O | 0.3 |
| MnSO4·H2O | 0.34 |
| FeSO4·7H2O | 0.3 |

**Table S2** Alpha diversity indices.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sample** | **ASVs** | **Observed species** | **Good's coverage** | **Shannon** | **Gini-Simpson** | **Chao1** |
| R0 | 1158 | 1155 | 0.997 | 3.908 | 0.860 | 1259 |
| R1 | 1709 | 1715 | 0.995 | 5.275 | 0.858 | 1868 |
| R2 | 1790 | 1779 | 0.995 | 5.914 | 0.935 | 1949 |
| R3 | 2048 | 2053 | 0.997 | 6.648 | 0.961 | 2097 |