**Table S4:** Taxonomy-guided query used for the real EBPR metagenome. Direct repeats were obtained from CRISPRdb tables of CRISPRs detected in the listed microbial genomes.

|  |  |  |
| --- | --- | --- |
| Taxon | Accession number | Query sequence |
| Candidatus *Accumulibacter phosphatis* clade IIA str. UW-1 | NC\_013194.1  (GenBank) | GTCTCAATCCCTTTGATTTCAGGGCTGGTTACTGAC |
| Candidatus *Accumulibacter phosphatis* clade IIA str. UW-1 | NC\_013194.1  (GenBank) | GTTTCCCCCGCGTCAGCGGGGATAGGCCC |