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Supplementary Materials: A laboratory-scale study of the applicability of a halophilic sediment bioelectrochemical system for *in situ* reclamation of water and sediment in brackish aquaculture ponds: effects of operational conditions on performance

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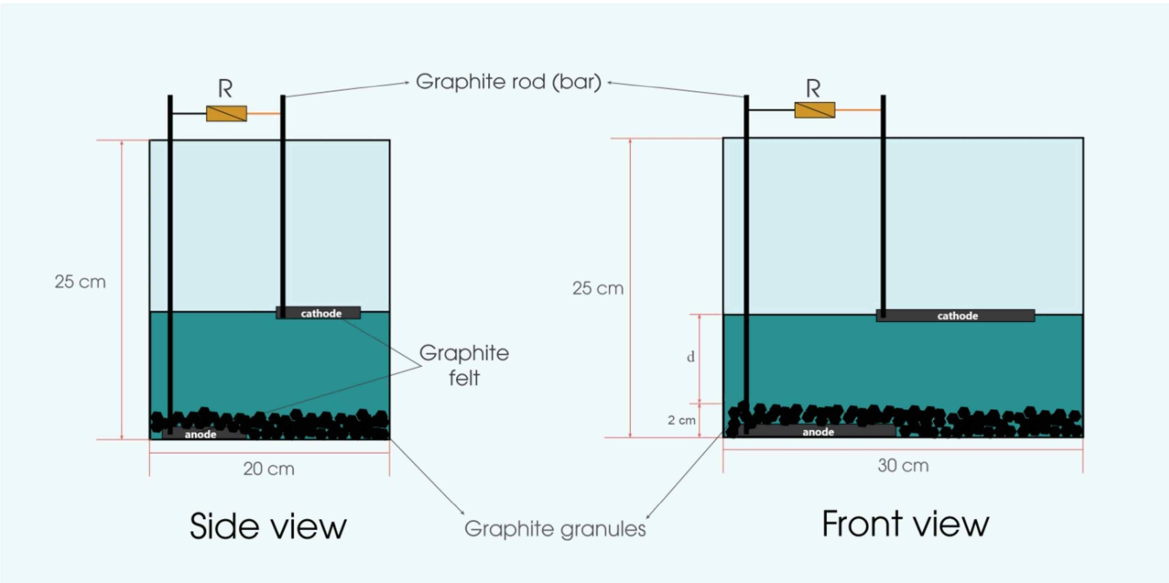

Figure S1. Design of the aquaculture model tank installed with the sediment bioelectrochemical system used in the study. Note: R: resistance. The cover of the tank was made of glass. The distance (d) between electrodes was 10 cm by default and to be changed when the effect of the electrode spacing was tested.

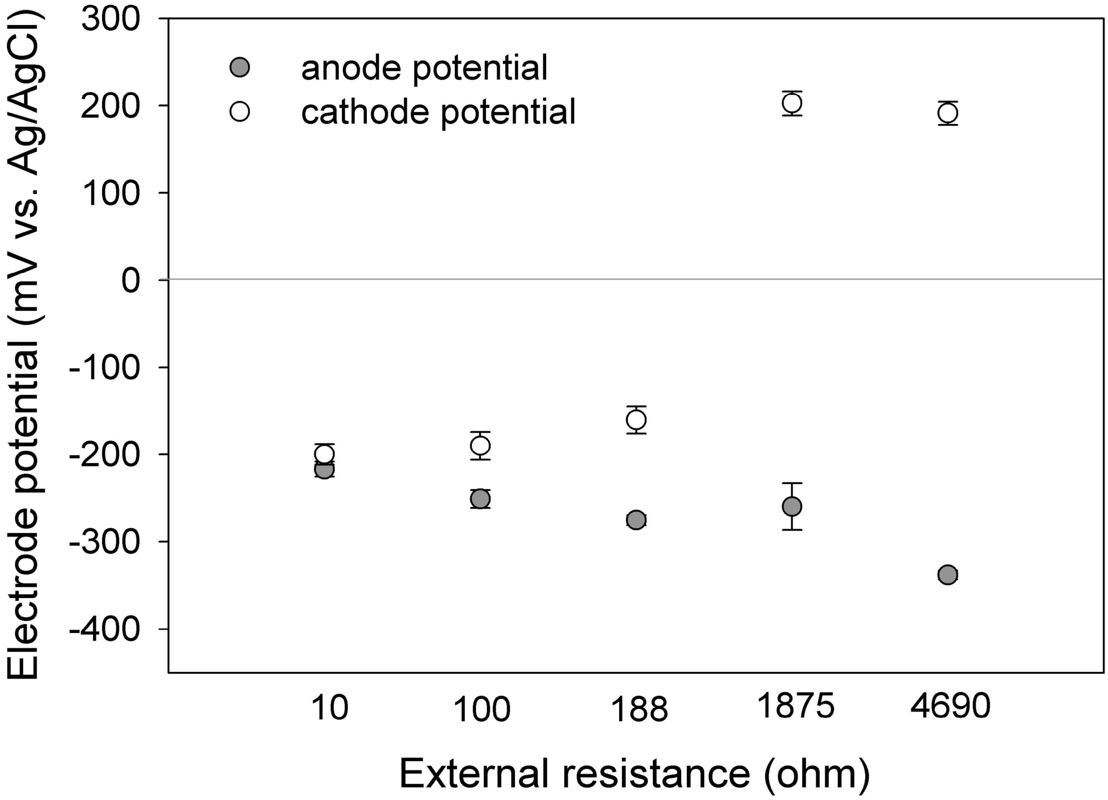

Figure S2. Profiles of anode potential and cathode potential of the SBES in this study when operated with different external resistances. The systems were operated under default conditions (pH7, 30^{o}C, 1.5% salinity and 10 cm electrode spacing), except that the external resistance was varied. Shown here are average values and standard deviations of three replications in each experiment.

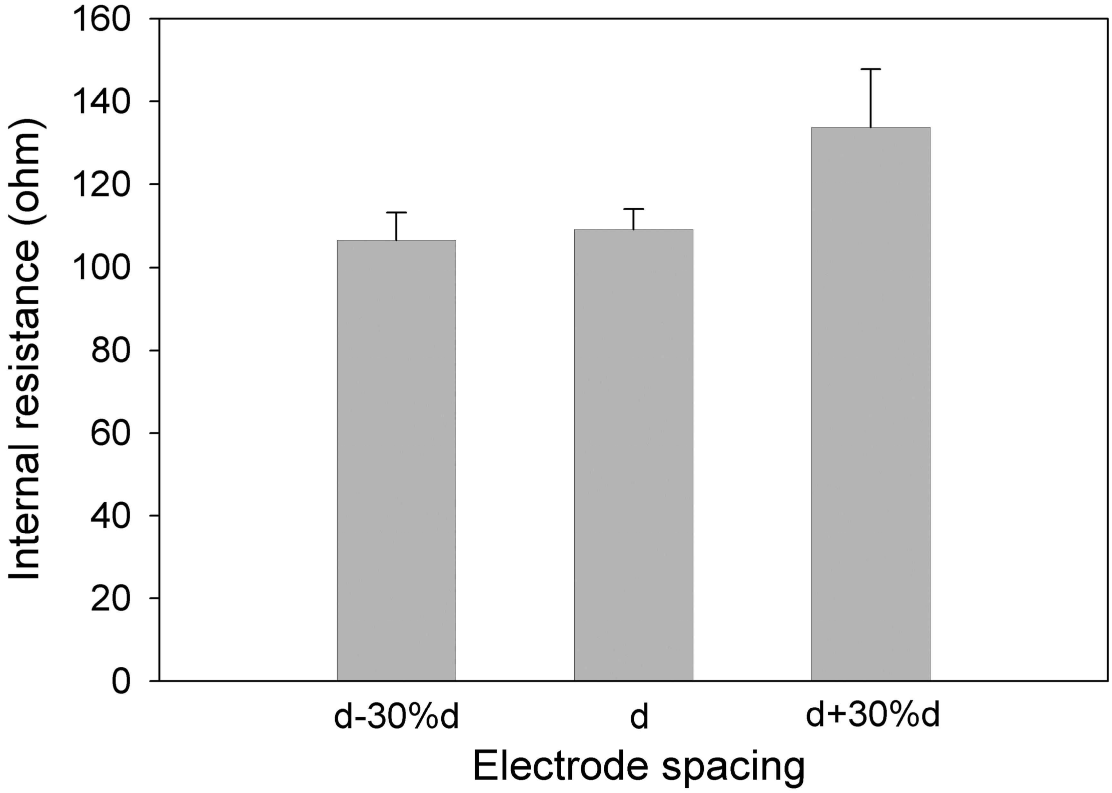

Figure S3. Internal resistance profile of the SBES in this study when operated with different electrode spacings. The systems were operated under default conditions (pH7, 30^{o}C, 1.5% salinity and 10 Ω external resistance), except that the electrode spacing was varied. d: the default distance between the two electrodes = 10 cm; d+30%: the distance with 30% increase compared to the default; d-30%: the distance with 30% decrease compared to the default. Shown here are average values and standard deviations of three replications in each experiment.

Note for Materials & Methods section:

The total anode surface area (S_a) was calculated as follows (see Part A article): As the volume of the anode graphite felt is 15 cm × 7 cm × 0.9 cm = 94.5×10^{-6} m^3 << the total volume of the anode = 0.0012 m^3 (= 30 cm × 20 cm × 2cm), the former can be considered negligible. Thus S_a = SSA of graphite granules × total volume of the anode, whereas SSA is the specific surface area. The SSA of graphite granules (considering the average diameter of the granules being 4 mm) was calculated to be approximately 0.9×10^3 m^2 m^{-3} (= $6 \times (1 - \theta)/d_{50}$, whereas θ is the porosity (~0.4) and d_{50} is the 50% passing particle diameter (4 mm)), according to Srinivasan et al. (2016). With the volume of the anode being 0.0012 m^3, $S_a = 0.9 \times 10^3$ m^2 $m^{-3} \times 0.0012$ $m^3 = 1.08$ m^2.