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The properties of anaerobic ammonium oxidation (anammox) granules: roles of ambient temperature, salinity and calcium concentration

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Abstract: In the present study, the effects of temperature, salinity and calcium concentration on the properties of anaerobic ammonium oxidation (anammox) granules were comparatively investigated using four upflow anaerobic sludge blanket (UASB) reactors. The results demonstrated that the metabolic pathway of the anaerobic ammonium oxidizing bacterium (AnAOB) with its inner structure was changed following the addition of salt. The reaction ratios shown a considerable change. Both low ambient temperature and cell lysis reduced the activity, diameter and strength of the granules. A calcium concentration of 152 mg Ca²⁺ L⁻¹ protected

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