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A comprehensive insight into the effects of microwave-H₂O₂ pretreatment on concentrated sewage sludge anaerobic digestion based on semi-continuous operation

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Abstract: This study gave a comprehensive insight into the effects of microwave-H₂O₂ pretreatment on concentrated sludge anaerobic digestion (AD). Results showed that mixture of activated sludge and pretreated sludge at mass ratio of 1:1 was efficient for enhancing AD, methane production was increased from 215.51 mL/g VS_{added} to 258.38 mL/g VS_{added}. Pretreatment resulted in the change of sludge properties, such as solubilization of organic matters, decrease of viscosity. For concentrated sludge AD, the “pH buffer system” ensured the “inhibitory steady state” during start-up period, and

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